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# 1987

## Census of Construction Industries

CC87-I-22

INDUSTRY SERIES

### Glass and Glazing Work Special Trade Contractors

Industry 1793



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# ACKNOWLEDGMENTS

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Many persons participated in the various activities of the 1987 Census of Construction Industries.

The overall planning and review of the census operations were performed by the staff of the Office of the Assistant Director for Economic and Agriculture Censuses.

This report was prepared in the Construction Statistics Division. **Barry A. Rappaport**, Assistant Division Chief for Industry Surveys, was responsible for the overall planning, management, and coordination of the census of construction industries. Planning and implementation were under the direction of **A. William Visnansky**, Chief, Census Operations Branch, with primary staff assistance by **Juliana Van Berkum**, **Barbara J. Hadden**, **Edward R. Glover**, **Susan L. Hostetter**, **Shirley M. Baker**, and **Carolyn J. Stone**. Under the direction of **Jesse Pollock**, **Edward K. Ricketts** and **Dennis K. Duke** developed the sampling plans and variance and estimation specifications.

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Special acknowledgment is also due the many businesses whose cooperation has contributed to the publication of these data.

If you have any questions concerning the statistics in this report, call (301) 763-7546.

# **1987**

## **Census of Construction Industries**

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INDUSTRY SERIES

### **Glass and Glazing Work Special Trade Contractors**

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Issued January 1990



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## PURPOSE AND USES OF THE ECONOMIC CENSUSES

The economic censuses are the major source of facts about the structure and functioning of the Nation's economy. They provide essential information for government, business, industry, and the general public.

*Economic censuses furnish an important part of the framework for such composite measures as the gross national product, input-output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions.*

*Policy-making agencies of the Federal Government use the data, especially in monitoring economic activity and providing assistance to business.*

*State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.*

*Trade associations study trends in their own and competing industries, and keep their members informed of market changes.*

*Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.*

## AUTHORITY AND SCOPE

Title 13 of the United States Code (sections 131, 191, and 224) directs the Census Bureau to take the economic censuses every 5 years, covering years ending in 2 and 7. The 1987 Economic Censuses consist of the—

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction Industries

Special programs also cover enterprise statistics and minority-owned and women-owned businesses. (The 1987 Census of Agriculture and 1987 Census of Governments are conducted separately.) The next economic censuses are scheduled to be taken in 1993 covering the year 1992.

## AVAILABILITY OF THE DATA

The results of each of the economic censuses are available in printed reports, for sale by the U.S. Government Printing Office, and on microfiche, computer tape, compact discs with read-only memory, and flexible diskettes, for sale by the Census Bureau. Order forms for all types of products are available on request from Customer Services, Census Bureau, Washington, DC 20233. A more complete description of publications being issued from this census is on the inside back cover of this document.

Census facts are also widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. Finally, State Data Centers in every State and Business and Industry Data Centers in many States also supply economic census statistics.

## WHAT'S NEW IN 1987

Several changes have taken place for the 1987 censuses. Data will be reported on the basis of the newly revised Standard Industrial Classification (SIC) system with selected reports including "bridge tables," linking the old and new classification systems. A new set of metropolitan



areas has been adopted, and more detailed information will be available for businesses with no paid employees. For additional information on these changes, review the subsequent text.

One important change involves receipts of contractors and builders. Prior to 1987, the Census of Construction Industries collected receipts as the primary measure of construction activity. For 1987, the census collected the "value of construction work done" to better measure actual construction activity done during the year. Differences between the two concepts occur when work is done in one year and payment received either from the prior or in the succeeding year. In addition, receipts do not include work a contractor performs for its own account and use.

## **HISTORICAL INFORMATION**

The economic censuses have been taken together as an integrated program at 5-year intervals since 1967, and before that for 1963, 1958, and 1954. Prior to that time, the individual censuses were taken separately at varying intervals.

The economic censuses trace their beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for 1840 and subsequent censuses to include mining and some commercial activities. In 1902, Congress established a permanent Census Bureau and directed that a census of manufactures be taken every 5 years. The 1905 manufactures census was the first time a census was taken apart from the regular every-10-year population census.

The first census of business was taken in 1930, covering 1929. Initially it covered retail and wholesale trade, and construction industries, but it was broadened in 1933 to include some of the service trades.

The 1954 economic censuses were the first to be fully integrated—providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. These were the first censuses to be taken by mail, using lists of firms provided by the administrative records of other federal agencies. Since 1963, administrative records have also been used to provide basic statistics as well for very small firms, reducing or eliminating the need to send them census questionnaires. The Enterprise Statistics Program, which publishes combined data from the economic censuses, was made possible with the implementation of the integrated census program in 1954.

The range of industries covered in the economic censuses has continued to expand. The Census of Construction Industries began on a regular basis in 1967, and the scope of service industries was broadened in 1967, 1977, and 1987. The Census of Transportation began in 1963 as a set of surveys covering travel, transportation of commodities, and trucks. New for 1987 are publications reporting on business establishments engaged in several transportation industries, paralleling the data on establishments in

other sectors. This is part of a gradual expansion in coverage of industries previously subjected to government regulation. The Survey of Minority-Owned Business Enterprises was first conducted as a special project in 1969 and was incorporated into the economic censuses in 1972 along with the Survey of Women-Owned Businesses.

Economic censuses have also been taken in Puerto Rico since 1909, in the Virgin Islands and Guam since 1958, and in the Northern Mariana Islands since 1982.

Statistical reports from the 1982 and earlier censuses provide historical figures for the study of long-term time series, and are available in some large libraries. All of the census data published since 1967 are still available for sale on microfiche from the Census Bureau.

## **AVAILABILITY OF MORE FREQUENT ECONOMIC DATA**

While the censuses provide complete enumerations every 5 years, there are many needs for more frequent data as well. The Census Bureau conducts a number of monthly, quarterly, and annual surveys, the results of which appear in publication series such as *Current Construction Reports* (building permits, housing starts, and value of new construction put in place), *Current Business Reports* (retail and wholesale trade and service industries), the *Annual Survey of Manufactures*, *Current Industrial Reports*, and the *Quarterly Financial Report*. Most of these surveys, while providing more frequent observations, yield less kind-of-business and geographic detail than the censuses. The *County Business Patterns* program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county.

## **SOURCES FOR MORE INFORMATION**

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1987 Economic Censuses and Related Statistics*. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1987 Economic Censuses*. Contact Customer Services for information on availability.

## **CENSUS OF CONSTRUCTION INDUSTRIES—SCOPE AND CLASSIFICATION**

The 1987 Census of Construction Industries covers all employer establishments (establishments with payroll) primarily engaged in contract construction, construction on their own account for sale, or in subdividing real property



into lots as defined in the 1987 Standard Industrial Classification (SIC) Manual.<sup>1</sup> This industrial classification system has been developed by experts on classification in government and private industry under the guidance of the Office of Management and Budget and is in general use among government agencies and among organizations outside the government.

**Contract construction**—The SIC manual defines construction in three broad types of activity that follow:

1. **Building construction by general contractors or by operative builders**—General building contractors are primarily engaged in the construction of dwellings, office buildings, stores, farm buildings, and other building projects. Operative builders who build on their own account for sale are also included here. However, investment builders who build structures on their own account for rent are classified in Real Estate.
2. **Heavy construction general contractors**—Heavy construction general contractors are primarily engaged in the construction of highways, bridges, pipelines, sewers and water lines, marine construction, power, and petro-chemical plants and other nonbuilding construction projects. Special trade contractors are classified in heavy construction if they are specifically engaged in the following activities: grading for highway and airport runways; guardrail construction; installation of highway signs; asphalt and concrete construction of roads, highways, streets and public sidewalks; trenching, cable laying; conduit construction; underwater rock removal; pipeline wrapping; or land clearing and leveling.
3. **Construction by other special trade contractors**—These contractors include plumbers, painters, carpenters, electricians, brick layers, roofers, etc. For the most part, they perform their work at the site of construction, although they may also have shops where they perform work incidental to the job site.

General contractors in both the building and the heavy construction field usually assume responsibility for an entire construction project, but may subcontract to others all of the actual construction work or those portions of the project requiring special skills or equipment. Special trade contractors may work for general contractors, for other subcontractors, or may work directly for the owner of the property.

In addition to the industries classified in the SIC manual as Construction, this census also includes one industry

classified in the Real Estate area, SIC 6552, Land Subdividers and Developers, Except Cemeteries. These establishments are engaged in subdividing real property into lots and in developing it for sale on their own account.

Each establishment receiving a questionnaire was requested to report the percent of total dollar value of business done for each kind-of-business activity engaged in during 1987. This information was used for the computer assignment of appropriate industry classifications. During this work, various tests were also made using other data reported on the questionnaire. The proportion of construction work to total business was checked to verify that the establishment was primarily in construction. Also taken into consideration were the types of structures worked on during the year and the extent of work undertaken for other contractors.

Construction establishments often engage in various construction activities. It is necessary, however, to assign a single industry code to the establishment based on its major activity. Therefore, the statistics shown for an industry reflect not only the primary activity of the establishments in the industry, but also their secondary activities. The industry reports, however, do present data on the extent of secondary activities.

A revised edition of the SIC Manual was issued in 1987. Minor modifications were made to three industries in the construction sector: SIC 1611, Highway and Street Construction Contractors; Except Elevated Highways; SIC 1629, Heavy Construction Contractors, N.E.C; and SIC 1771, Concrete Work Special Trade Contractors. The extent of these modifications are explained in the specific texts for those industries. "Bridge tables" are also included showing selected data tabulated using both the previous classification system and the 1987 revision.

## ESTABLISHMENT BASIS OF REPORTING

The census of construction industries is conducted on an establishment basis. A "construction establishment" is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted. With some exceptions, a relatively permanent office is one which has been established for the management of more than one project or job and which is expected to be maintained on a continuing basis. Such "establishment" activities include, but are not limited to estimating, bidding, purchasing, supervising, and operation of the actual construction work being conducted at one or more construction sites. Separate construction reports were not required for each project or construction site.

Companies with more than one construction establishment were required to submit a separate report for each such establishment operated during all or any part of 1987. The census of construction industries figures represent a summary of records for individual establishments rather than for companies. The census tabulations, therefore, differ from those prepared on a company basis.

<sup>1</sup>Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.



If an establishment engaged in construction and one or more distinctly different lines of economic activity (wholesale or retail trade, service, manufacturing, mining, etc.) at the same place of business, it was requested to file a separate report appropriate to each activity, provided that the activity was of substantial size and separate records were maintained or substantially accurate estimates could be prepared.

If a separate establishment report could not be prepared for each activity, then a construction report was requested covering all activities of that establishment providing that the 1987 value of construction work exceeded the gross receipts from each of its other activities.

Construction businesses with no payroll during 1987 (nonemployers) were not required to file census reports. Tabulation of data for these businesses are based on administrative records and are shown only in U.S. summary publications and the geographic area reports series. Refer to the section on "Sample Design" for details. Foreign construction activities were not included in this census.

## **SAMPLE DESIGN, ESTIMATION PROCEDURES, AND RELIABILITY OF ESTIMATES**

The companies included in the 1987 Census of Construction Industries were identified as part of an operation common to all 1987 Economic Censuses. Construction companies were divided into employers (companies with payroll) and nonemployers (companies without payroll). Statistical information for the employers was obtained in the census by a survey which included all medium size and large employers and a sample of the smaller ones. Census reports were not required from the nonemployers. Statistics on them were obtained from administrative records of other agencies of the Federal Government.

### **Employer Companies**

**Developing the sampling frame for employer companies**—This operation started with obtaining a list of all construction companies in the active records of the Internal Revenue Service (IRS) which were subject to payment of Federal Insurance Contributions Act taxes. The basic source for this list has been the Internal Revenue Service Business Master File, a comprehensive list of companies engaged in business activities in the United States. The file contains the name, address, and form of ownership of each company and also indicates whether or not the company is subject to the FICA. Each company in this file is assigned a unique employer identification (EI) number which it uses in filing its various reports with the IRS. The Social Security Administration (SSA) maintains a similar list using the same identification numbers, which also contains information on the industrial classification of each company. The Bureau of the Census obtained both of these lists and combined them.

Under special arrangements which safeguarded the confidentiality of the information, the Bureau also obtained administrative records data on payrolls and receipts and added these data to the combined list. The list, thus created from the IRS-SSA information, was a list of employer companies. However, for the 1987 Economic Censuses the basic reporting unit is the "establishment." Therefore, steps were taken to identify the individual establishments of those companies which operate more than one place of business. The information for making this determination was obtained by means of the Company Organization Survey (COS), an annual canvass of all known multiestablishment companies and large single-establishment companies. Thus, the 1987 Economic Census list for single-establishment employer companies was obtained from the IRS-SSA, but the list of establishments of multiestablishment employer companies was obtained directly from those companies in the COS. Refer to the section on "Establishment Basis for Reporting" for details.

In general, the IRS-SSA list provided sufficient industrial classification data to assign a company to the proper economic census, but there were a number of companies for which this information was inadequate or unavailable. A special form, NC-9923, General Schedule, was mailed to all such companies, requesting information on the nature of the company's activities. From the information reported, the company was given an industrial classification code and assigned to the appropriate economic census. Since construction companies found in this way were identified only after the regular census mailing had taken place, they were treated as a supplement to the basic list.

**Selecting the employer sample**—The sample was designed to provide reliable State and metropolitan area estimates for each construction industry. It consisted of all construction establishments in multiestablishment companies, all single-establishment companies with estimated total employment of 20 employees or more, and a probability sample of single-establishment companies with estimated employment of fewer than 20 employees.

Supplementing the sample were construction companies identified from the NC-9923, General Schedule. Also affecting the sample were the misclassified companies; i.e., companies included in the samples of other trade areas which reported they were construction companies and companies originally classified in construction which reported they were not construction companies.

Of the 533,000 single-establishment employer companies initially classified as construction companies, 147,000 were included in the sample. All of the 13,000 establishments of multiestablishment companies were included in the sample. There was a net increase in the sample of 60,000 establishments resulting from establishments originally unclassified (receiving the NC-9923) or misclassified.

The probability sample of the smaller single-establishment companies was a stratified random sample. Strata were formed from all establishments with the same initial four-digit SIC code, in the same State, in the same metropolitan



area or in the balance of the State, and in the same size class based on estimated total employment. If the four-digit SIC code for an establishment was incomplete, the establishment was placed in a stratum for miscellaneous companies. Because they were small, all companies were included in the sample for the following three industries: SIC 1622, Bridge, Tunnel, and Elevated Highway Construction Contractors; SIC 1795, Wrecking and Demolition Work Special Trade Contractors; and SIC 1796, Installation or Erection of Building Equipment Special Trade Contractors.

**Estimation procedures for 1987 and 1982 data—**Since all larger employer companies and some smaller ones were included in the census, sample estimation was required only for the universe of companies not selected with certainty. The published statistics are the totals of the estimates for the sampled companies and the aggregates for the certainty companies. All estimates for 1987 and 1982 published here are simple unbiased estimates of the form:

$$x'_c = \frac{\sum_{i=1}^{n_c} x_i}{n_c} / p_i$$

where:  $x'_c$  is the simple unbiased estimate of a characteristic for a publication cell.

$x_i$  is the reported value of a characteristic for an individual establishment in the publication cell.

$p_i$  is the selection probability of that firm.

$n_c$  is the number of firms in the sample for the cell.

Data for certain characteristics were reported as a percentage of the dollar value of business done. Before this formula was applied to those characteristics, it was necessary to convert the reported percentages into dollars.

**Reliability of employer statistics—**Since the estimates for employer establishments in these reports are based on the samples, they are subject to sampling variability and may be expected to differ from results which would have been obtained if a complete census had been taken using the same forms and procedures. The sampling errors shown in the tables were estimated directly from the sample reports, using methods appropriate for the sample design and form of estimation used.

The relative standard error is a measure of sampling variability, i.e., the variation that might occur by chance because only a sample of the population is surveyed. As calculated for this report, the relative standard error also partially reflects the effect of random errors of response and processing, but it does not take into account the effect of any consistent biases due to those types of errors. The chances are about 68 out of 100 that an estimate from the

sample would differ from a complete census by less than the relative standard error. The chances are about 95 out of 100 that the difference is less than twice the relative standard error and about 99 out of 100 that it is less than 2-1/2 times the relative standard error. Individual estimates with large relative standard errors have been shown in the published tables. Any such estimates should be used with caution. The very large relative standard errors generally occur for the smaller estimates.

Relative standard errors have been calculated for all of the published statistics, although they are shown for each statistic only in the tables presenting detailed statistics. Other tables show relative standard errors only for certain characteristics because of lack of space.

As calculated for this report, the relative standard error measures certain nonsampling errors, but does not measure any systematic biases in the data. Bias is the difference, averaged over all possible samples with the same size and design, between the estimates and the true value being estimated. Nonsampling errors can be attributed to many sources: inability to obtain information about all cases in the sample; definitional difficulties; differences in interpretation of questions; inability or unwillingness of respondents to provide correct information; and errors made in processing the data. Although no direct measurements of the biases have been obtained, it is believed that most of the important response and operational errors were detected in the course of reviewing the data for reasonableness and consistency.

A potential source of bias is in the imputation for those establishments that have not responded by the time of final publication. Data were estimated for establishments that did not report by that date, although selected establishments were contacted again to obtain as much information on the telephone as possible. Some publication cells in which more than 40 percent of the data were not reported have been suppressed.

## Nonemployer Companies

As described earlier, the information derived from the business income tax returns of all companies was matched to the census employer file on the basis of common identification numbers. Those business income tax returns which could not be matched, were further classified on the basis of several characteristics. Returns with characteristics consistent with companies without payroll were treated as nonemployers. The nonemployer construction companies were not required to file census reports.

For "number of establishments," each separate income tax return was assumed to be an establishment. "All business receipts" was based on receipts information reported on the tax return.

Since no sampling was involved in the nonemployer establishments, the statistics for nonemployers are not subject to sampling variability. However, these data are subject to an unknown amount of reporting and processing errors which could not be detected by the Census Bureau.



## **CENSUS REPORT FORMS**

Information for the 1987 Census of Construction Industries was obtained from employer establishments primarily through the use of twenty-four questionnaires, determined by industry classification and size. Standard forms and short forms were developed for each of the following SIC groups: 15, 16, 171, 172, 173, 174, 175, 176, 177, 178, and 179 and for the establishments classified in SIC 6552. Establishments with 50 or more employees all received the standard form. A sub-sample of establishments with fewer than 50 employees received short forms instead of the standard forms. The short forms covered only major items and omitted some of the detail found in the longer forms.

In reviewing and developing the questionnaires, comments and recommendations were elicited from construction trade associations and appropriate advisory groups. The Bureau surveyed several thousand firms representing all economic activities to gain insight into the way companies maintain records and to see whether new information could be collected.

## **DATA PROCESSING**

The 1987 census report forms were mailed out in December 1987. They were mailed from and returned to the Census Bureau's Data Preparation Division in Jeffersonville, Ind., where routine editing and coding of the report forms were also accomplished. Collection of these report forms was essentially completed in July 1988.

The returned reports underwent extensive processing. A preliminary edit done at the time of data entry identified obviously deficient reports and reports needing clarification. When necessary, these problems were resolved by further contact with the respondents. Next, the data were transmitted to Census Bureau headquarters near Washington, DC.

Data records, then, underwent a detailed computer review and analysis. The records containing significant problems were referred for further analytical review and, if necessary, contacts were made with the respondents. The computer performed most classification coding (such as industry coding, geographic coding, and size coding), and imputation for missing items or for reports not received in time for tabulation. The imputation was performed on an industry (or industry group)-State (or geographic group) basis using all available response and administrative data.

The data records were then tabulated on an industry basis. Industry totals were subjected to analytical review, and selected statistics were prepared for the preliminary reports. Corrections resulting from this review were made to the computer records and final tabulations were produced.

The review of a preliminary report for an industry often uncovered the need for corrections or revisions to the data for another industry for which a preliminary report had already been published. The final reports incorporate all

revisions and corrections made during the review of the preliminary reports and contain considerable more data than were published in those reports.

## **GEOGRAPHIC CLASSIFICATION**

Information for the 1987 Census of Construction Industries' final industry report series is classified on the basis of two types of geographic distributions: (1) physical location of the establishment, and (2) location of construction work. A separate code was assigned on each basis allowing us to present data by both physical locations of the establishment and location of construction work.

The geographic area reports series presents similar data by industry for each State (physical location of the establishment) and for selected MSA's, CMSA's and PMSA's.

## **DUPLICATION IN VALUE OF CONSTRUCTION WORK**

The aggregate of value of construction work reported by all construction establishments in each of the several industry, geographic area, or other groupings in this census, contains varying amounts of duplication, since the construction work of one firm may be subcontracted to other construction firms and also be included in the subcontractors' value of construction work. To avoid this duplication, a "net" value of construction work figure has been derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work.

Duplication in value of business between other construction and nonconstruction industries, results from the use of products of these other industries as input materials by construction establishments. "Value added," avoids this duplication and is, for most purposes, the best measure for comparing the relative economic importance of industries or areas. "Value added," is defined in the 1987 Census of Construction Industries as equal to dollar value of business done less costs for construction work subcontracted to others and payments for materials, components, supplies, and fuels. However, for SIC 6552 and SIC 1531 where land receipts are significant, land receipts are also subtracted from dollar value of business done.

## **SPECIAL TABULATIONS**

Special tabulations of data collected in the 1987 Census of Construction Industries may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact and detailed specifications of the type and format of the data to be provided, should be directed to the Chief, Construction Statistics Division, Bureau of the Census, Washington, DC, 20233.



To discuss a special tabulation before submitting specifications, call 301-763-7546.

**COMPARABILITY OF CENSUS OF CONSTRUCTION INDUSTRIES DATA WITH OTHER DATA**

Data contained in the reports of the 1987 Census of Construction Industries are not the same as the data published in the Census Bureau's monthly Construction Reports, Series C30, Value of New Construction Put in Place. The main difference is that the C30 series covers all new construction put in place without regard to who is performing the construction activity, whereas the construction census figures cover both new construction and maintenance and repair work done by establishments classified in the construction industry. Significant amounts of construction are done by establishments classified outside of construction (in real estate, manufacturing, utilities and communications, for example), both as "force account" construction and construction done for others. In addition, the value in place series includes construction-related expenses such as architectural and engineering costs and the costs of materials supplied by owners which are normally not reflected in the Census of Construction.

Data contained in the reports of the census of construction industries may also differ from industry data in "Employment and Earnings Statistics," published by the Bureau of Labor Statistics, and "Statistics of Income," published by the Internal Revenue Service. These differences arise from varying definitions of scope, coverage, timing, classification, and methodology.

**ABBREVIATIONS AND SYMBOLS**

The following abbreviations and symbols are used in this publication:

- \* Sampling error exceeds 40 percent.
- \*\* Represents the sum of all employees during pay periods including 12th of March, May, August, and November, divided by 4.
- Represents zero.
- † Represents value of construction work less costs for construction work subcontracted to others. (See Duplication in Value of Construction Work.)
- †† Represents dollar value of business done less costs for construction work subcontracted to others, and costs for materials, components, supplies, and fuels. In SIC's 1531 and 6552, land receipts are also subtracted from dollar value of business done. (See Duplication in Value of Construction Work.)
- (D) Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
- (NA) Not available.
- (S) Withheld because estimate did not meet publication standards on the basis of either the response rate, associated relative standard error, or a consistency review.
- (W) Greater than zero but less than 1 percent.
- (X) Not applicable.
- n.s.k. Not specified by kind.

# Users' Guide for Locating Statistics in This Report by Table Number

Statistics	For U.S.	By State	By employment size	By size class of dollar value of business done	By type, class, ownership, kind of business, and location of construction <sup>1</sup>	By specialization in types of construction
Assets and depreciation (gross book value):						
Beginning of year—buildings, machinery and equipment.....	3					
End of year—total.....	1, 3	1	5	6		
End of year—buildings, machinery and equipment.....	3					
Depreciation charges during year—buildings, machinery and equipment.....	3					
Capital expenditures:						
Total capital expenditures.....	1, 3	1	5	6		
New buildings—machinery and equipment.....	3					
Used buildings—machinery and equipment.....	3					
Communication services, costs for.....	2					
Employees:						
All employees—average number.....	1, 2	1	5	6		8
Construction workers—average number.....	1, 2, 9	1, 9				
Other employees—average number.....	2					
Employer costs for fringe benefits—legally required and voluntary expenditures.....	2					
Establishments—number in business during year.....	1, 2, 4, 9	1, 9	5	6		8
Hours—construction workers:						
Total.....	1, 2, 9	1, 9	5	6		
Quarterly.....	2, 9	9				
Inventories.....	4					
Materials, components, supplies, and fuels—costs for.....	1, 2	1	5	6		
Payroll:						
First quarter, all employees.....	2					
Annual:						
All employees.....	1, 2	1	5	6		8
Construction workers.....	1, 2	1				
Other employees.....	2					
Power, fuels, and lubricants—costs for.....	2					
Proprietors and working partners.....	2					
Ratios, State.....	13	13				
Value and receipts:						
Dollar value of business done, total.....	2		5	6	11	
Value of construction work, total.....	1, 2, 4	1	5	6	2, 7, 10	8
For work subcontracted in from others.....	2					
Other business receipts and land receipts <sup>2</sup> .....	2					
Net value of construction work.....	1, 2	1	5	6		8
Value added.....	1, 2	1	5	6		8
Rental costs:						
Total.....	1, 2	1	5	6		
For machinery and equipment.....	2					
For buildings.....	2					
Repairs to buildings and other structures.....	2					
Repairs to machinery and equipment.....	2					
Selected industry ratios.....	12					
Subcontract work to others, costs for.....	1, 2	1	5	6		8

Note: Data for 1982 and earlier years are also available in some of these tables.

<sup>1</sup>Type—buildings, roads, etc. Class—new construction; additions, alterations, or reconstruction; or maintenance and repair work. Ownership—private or government owned.

<sup>2</sup>Land receipts are shown separately for SIC's 1531 and 6552 only.



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Statistics for Establishments Without Payroll appear in the U.S. Industry Summary Report.

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# SUMMARY OF FINDINGS

Establishments classified in this industry are primarily engaged in glass and glazing work in connection with, but not limited to, building construction. For additional examples, refer to the 1987 Standard Industrial Classification (SIC) Manual published by the Office of Management and Budget, Executive Office of the President.

During 1987, the establishments with paid employees classified in this industry accounted for \$3.4 billion in total dollar value of business. Of this amount, \$3.2 billion were for the value of construction work. These establishments paid out \$1.6 billion for materials, components, and supplies and \$80.1 million for construction work subcontracted to others. Costs for selected power, fuels, and lubricants for this industry were \$52.9 million. Value added for 1987 was \$1.7 billion.

There were 4,636 establishments with total employment averaging 40,511 during the year. Total payroll for 1987 was \$919 million. Total hours worked by construction workers during the year were 49.5 million hours.

Larger establishments with 20 employees or more, while representing only 10 percent of the total number of employer establishments in this industry accounted for 49 percent of all business done.

A "construction establishment" is defined as a relatively permanent office, or other place of business, where the usual business activities related to construction are conducted. A separate census report was required from each sampled establishment covering domestic operations. Separate reports were not, however, required for each project or construction site.

In 1987, the value of construction work was collected to better measure actual construction activity done during the year. Construction receipts, as reported in earlier censuses, may have included the value of work done before or after the calendar year and may have excluded the value of work in progress during the calendar year. Receipts may have also excluded work done by builders engaged in construction for sale on their own account or for their own use. All dollar values are shown in current dollars for the years specified and have not been adjusted for inflation.

The data in this report are estimated from a sample survey and are subject to sampling variability as well as errors of response and nonreporting. The relative standard error shown in the tables is a measure of sampling variability. Descriptions of the sampling, estimating procedures, and data reliability are included in the Introduction.



Figure 1. **Value of Construction Work by Type of Construction**  
(Percent)

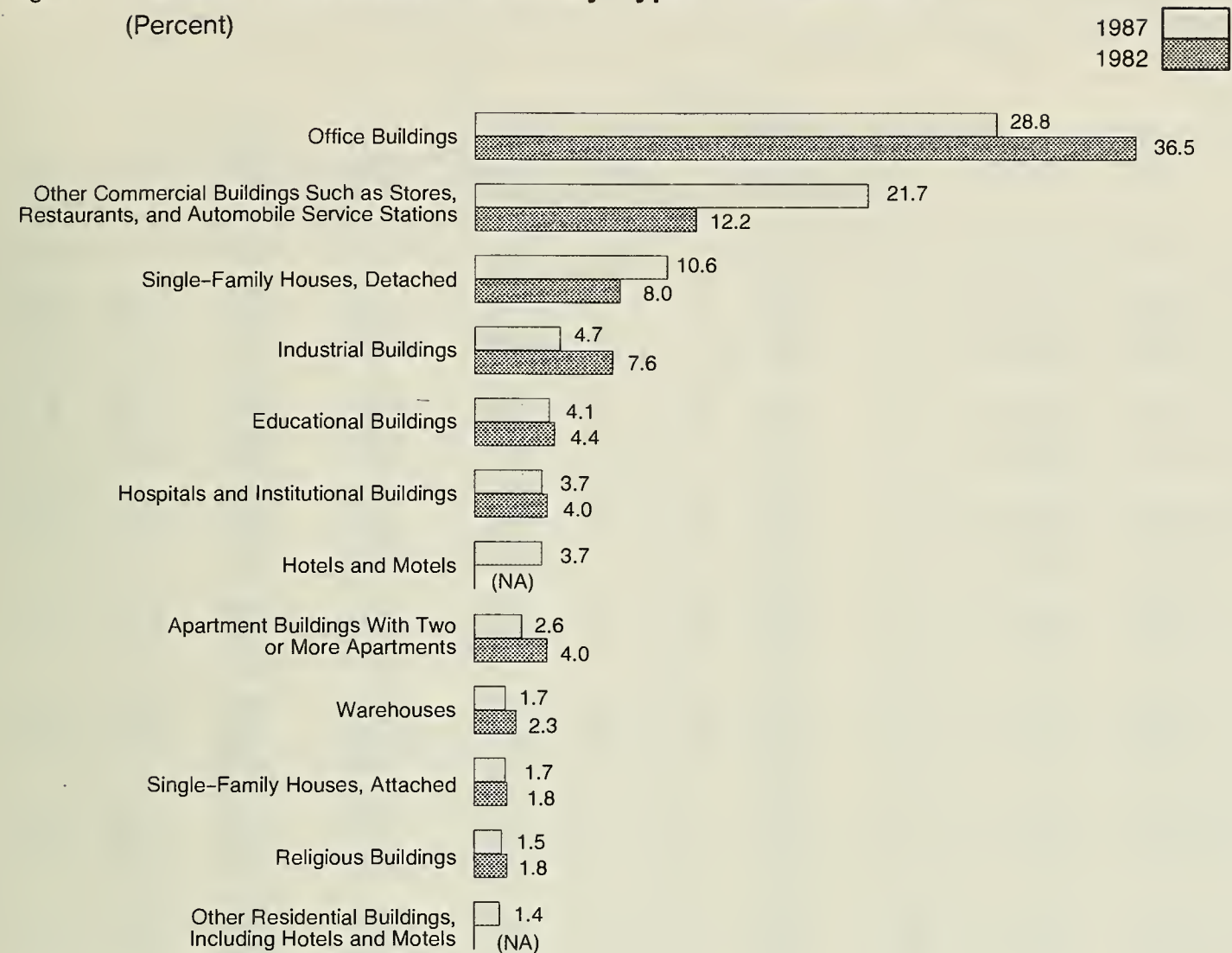
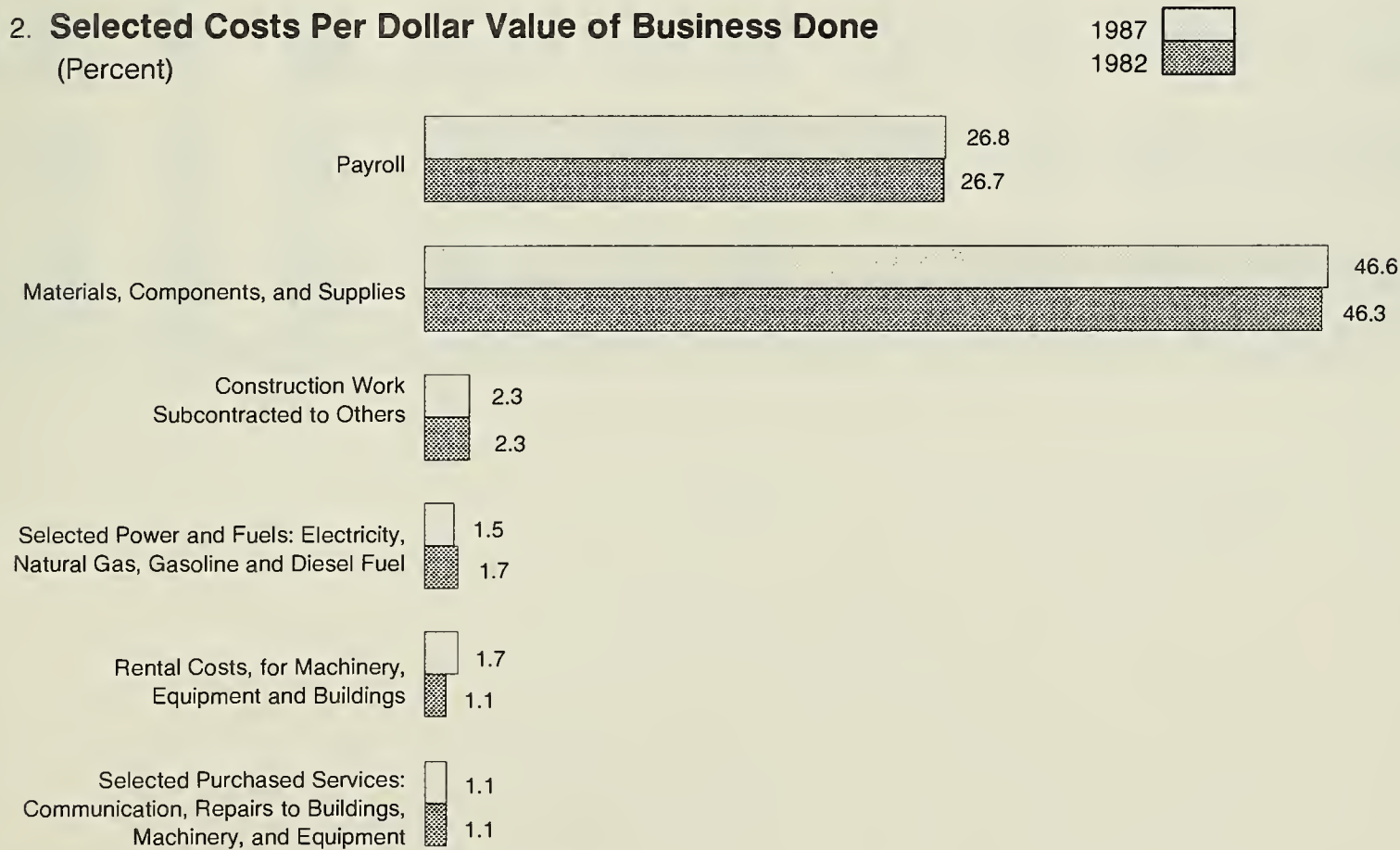


Figure 2. **Selected Costs Per Dollar Value of Business Done**  
(Percent)



For meaning of abbreviations and symbols, see introductory text.

**Table 1. General Statistics for Establishments With Payroll by State: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	1987							
	Number of establishments	Employees**		Payroll		Construction worker hours (thousands)	Value of construction work	Net value of construction work†
		All	Construction workers	All employees	Construction workers			
A	B	C	D	E	F	G	H	
United States .....	4 636	40 511	28 730	919 463	606 646	49 500	3 222 472	3 142 354
Alabama .....	86	643	468	11 627	8 058	818	47 952	46 543
Alaska .....	10	76	50	1 996	1 222	82	(D)	5 334
Arizona .....	70	877	594	16 780	11 166	1 086	65 345	65 001
Arkansas .....	30	207	155	4 231	2 839	252	13 755	13 651
California .....	799	6 474	4 568	154 831	105 447	7 401	572 626	562 199
Colorado .....	70	630	466	12 720	9 069	699	40 592	40 320
Connecticut .....	69	620	438	17 148	11 456	792	56 707	56 071
Delaware .....	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)
District of Columbia .....	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Florida .....	356	2 755	1 961	53 000	34 886	3 326	187 051	184 281
Georgia .....	136	1 237	897	28 001	16 662	1 565	101 860	100 831
Hawaii .....	35	236	150	6 054	4 063	265	22 510	21 931
Idaho .....	*18	84	54	1 344	948	83	6 439	6 379
Illinois .....	135	1 385	968	34 591	20 931	1 638	107 588	103 151
Indiana .....	88	652	471	15 239	10 309	895	55 749	54 429
Iowa .....	25	226	166	4 563	3 707	305	(D)	15 324
Kansas .....	52	463	343	8 755	6 183	592	29 613	29 257
Kentucky .....	55	439	301	8 961	5 873	538	33 536	33 104
Louisiana .....	61	565	437	11 664	9 214	741	38 815	37 359
Maine .....	5	37	27	817	561	47	3 692	(D)
Maryland .....	82	944	608	22 676	12 103	1 109	77 111	74 335
Massachusetts .....	115	1 453	1 042	39 891	26 980	1 897	123 305	116 066
Michigan .....	147	1 324	949	32 758	20 847	1 683	119 227	115 755
Minnesota .....	69	787	557	18 748	13 045	954	68 784	66 375
Mississippi .....	12	74	53	1 271	976	98	(D)	6 409
Missouri .....	65	620	439	17 088	10 875	814	54 134	51 855
Montana .....	*17	75	47	1 469	991	72	(D)	4 486
Nebraska .....	21	177	122	3 549	2 471	185	13 363	13 202
Nevada .....	38	366	255	9 369	5 887	433	32 397	31 675
New Hampshire .....	10	154	110	3 557	2 398	199	12 531	12 464
New Jersey .....	183	1 641	1 184	47 026	28 414	2 126	159 384	154 348
New Mexico .....	17	131	95	2 173	1 561	185	8 543	8 505
New York .....	285	2 471	1 802	58 639	39 664	3 090	202 792	194 431
North Carolina .....	75	1 116	761	22 135	13 192	1 462	72 739	70 908
North Dakota .....	7	56	35	951	614	63	4 419	(D)
Ohio .....	187	1 290	916	28 177	19 511	1 668	103 405	101 246
Oklahoma .....	68	349	236	7 714	5 655	555	19 919	19 697
Oregon .....	56	425	308	9 251	6 931	521	52 964	52 716
Pennsylvania .....	148	1 362	959	32 335	21 397	1 512	114 932	109 322
Rhode Island .....	18	207	144	4 336	2 784	234	14 657	14 437
South Carolina .....	54	585	382	10 377	6 054	683	37 242	36 852
South Dakota .....	15	121	74	2 092	1 082	131	6 094	(D)
Tennessee .....	71	609	437	11 640	7 672	772	45 535	45 141
Texas .....	364	3 234	2 362	65 764	45 902	4 025	202 590	198 494
Utah .....	16	91	61	1 555	1 141	104	5 540	5 520
Vermont .....	10	99	64	2 607	1 424	119	14 592	(D)
Virginia .....	75	1 061	776	25 967	16 191	1 374	94 576	92 251
Washington .....	184	1 022	704	19 738	13 263	1 051	75 468	74 359
West Virginia .....	17	82	57	1 743	1 094	101	5 590	5 574
Wisconsin .....	70	816	558	19 119	11 867	946	55 149	54 498
Wyoming .....	*15	57	39	904	687	*86	(D)	2 850

†In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



1987—Con.						1982			Relative standard error of estimate (percent) for column—			Location of establishment
Value added††	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings	Capital expenditures, other than land	End-of-year gross book value of depreciable assets	All employees**	Total construction receipts¹	Value added††				
I	J	K	L	M	N	O	P	Q	B	H	M	
1 700 519	1 652 613	80 118	56 999	37 209	270 720	35 843	2 422 274	1 297 853	1	1	4	U.S.
24 759	26 426	1 408	495	452	4 386	429	26 103	14 589	12	8	30	AL
3 237	3 505	(D)	174	—	338	97	6 310	4 478	2	3	—	AK
30 053	37 346	344	1 187	611	5 398	445	24 921	11 921	10	12	29	AZ
7 688	8 440	104	262	123	769	145	7 107	3 415	16	14	36	AR
307 226	289 451	10 426	12 737	4 149	34 443	4 407	373 732	202 025	6	6	10	CA
23 637	20 009	272	794	79	1 408	914	63 580	34 011	9	8	31	CO
30 506	27 433	636	816	798	3 705	306	16 742	8 390	6	6	17	CT
(D)	(D)	(D)	(D)	(D)	(D)	(S)	(S)	(S)	(D)	(D)	(D)	DE
(D)	(D)	(D)	(D)	(D)	(D)	88	5 844	3 799	(D)	(D)	(D)	DC
99 824	94 904	2 769	3 800	2 976	17 894	2 176	130 343	64 115	5	4	21	FL
49 726	54 905	1 029	1 197	1 192	7 454	739	46 330	25 507	5	6	18	GA
13 149	12 344	579	565	269	1 889	303	26 159	13 649	7	9	16	HI
3 198	4 357	60	206	46	542	59	*4 342	*1 903	(W)	2	4	ID
60 702	47 164	4 437	2 054	2 712	12 490	1 422	111 693	57 410	9	4	24	IL
27 683	31 157	1 320	866	724	3 478	481	27 837	15 243	13	9	26	IN
8 381	7 531	(D)	313	309	2 167	509	21 025	12 224	11	9	2	IA
17 435	14 742	356	529	173	3 454	303	15 329	10 300	6	8	38	KS
18 591	16 649	432	505	395	3 396	317	14 880	8 777	12	14	9	KY
20 337	19 247	(S)	366	*168	2 648	693	52 234	27 270	5	5	57	LA
1 496	2 527	(D)	44	(D)	82	48	2 781	1 424	(W)	(D)	(D)	ME
38 035	38 883	2 775	693	1 448	7 323	732	48 715	26 626	2	4	18	MD
61 537	59 161	7 239	2 834	1 408	9 938	966	75 057	39 322	6	4	12	MA
65 421	58 770	3 471	1 765	2 186	11 301	1 146	75 472	40 082	6	6	22	MI
37 772	35 285	2 409	1 530	1 078	4 129	537	43 103	22 237	8	4	22	MN
3 277	3 263	(D)	80	*15	*231	168	7 755	4 671	23	31	61	MS
28 267	27 133	*2 279	1 100	671	3 297	677	40 796	22 792	6	8	10	MO
2 848	2 935	(D)	211	(S)	561	*54	*2 839	*1 334	(W)	7	(S)	MT
6 942	7 304	161	166	41	504	118	9 460	4 853	12	16	(W)	NE
19 043	15 507	721	456	(D)	938	366	21 846	12 798	11	7	(D)	NV
6 117	7 505	67	163	284	439	(S)	(S)	(S)	9	13	39	NH
82 756	75 666	5 036	2 039	2 371	17 411	1 272	79 188	40 613	5	3	12	NJ
5 118	5 014	38	151	(D)	403	108	5 450	2 768	(W)	(W)	(D)	NM
107 817	97 006	8 360	2 851	2 191	15 385	2 332	135 458	69 749	4	5	21	NY
39 623	41 196	1 830	1 354	1 213	7 113	1 018	47 697	26 799	5	4	23	NC
2 154	2 443	(D)	(D)	(D)	360	82	6 475	3 231	(W)	(D)	(D)	ND
53 224	53 198	2 158	1 672	1 664	8 668	1 081	72 334	39 253	5	5	19	OH
10 506	10 045	222	535	*77	2 804	420	28 009	14 798	6	9	42	OK
24 615	30 178	247	865	*357	2 041	310	34 899	17 808	16	10	55	OR
61 024	61 459	5 609	1 653	2 797	10 684	2 274	147 645	102 287	8	6	15	PA
8 136	6 721	220	230	219	1 035	123	9 160	4 413	5	2	28	RI
19 173	23 465	389	617	341	5 219	382	21 461	10 617	8	7	24	SC
3 117	3 932	(D)	88	76	1 406	110	6 503	3 258	15	(D)	23	SD
24 827	22 890	*393	692	419	3 219	729	41 229	21 011	12	10	21	TN
108 834	101 254	4 096	3 272	944	31 008	4 530	343 831	170 263	3	3	19	TX
3 288	2 966	*20	185	(S)	556	104	4 588	2 782	34	32	(S)	UT
5 638	9 989	(D)	378	(D)	675	47	2 396	1 259	(W)	(D)	(D)	VT
42 846	53 184	2 325	1 814	582	4 654	663	36 967	16 760	4	3	12	VA
38 252	42 408	1 109	1 595	539	6 282	665	44 127	25 220	9	9	35	WA
3 085	2 845	16	31	*14	455	110	3 770	2 183	10	15	54	WV
33 857	28 311	651	754	626	5 693	548	35 095	20 281	15	15	18	WI
2 014	1 743	(D)	(S)	(D)	666	(S)	(S)	(S)	40	29	(D)	WY

**Table 2. Detailed Statistics for Establishments With Payroll: 1987 and Earlier Census Years**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	1977	1972	Relative standard error of estimate (percent)			
					1987	1982	1977	1972
Number of establishments in business during year .....	4 636	3 797	3 283	2 459	2	2	3	5
Proprietors and working partners .....	748	965	1 291	988	9	7	6	9
All employees** .....	40 511	35 843	26 125	20 023	1	2	1	3
Construction workers:								
March .....	27 811	25 113	18 056	13 080	2	1	1	3
May .....	28 574	25 509	18 436	13 507	2	2	1	3
August .....	29 429	26 737	19 222	14 331	2	2	1	3
November .....	29 108	27 075	21 113	14 756	2	2	1	3
Average .....	28 730	26 402	19 335	14 175	2	2	1	3
Other employees:								
March .....	11 807	9 427	6 484	5 614	2	2	1	3
May .....	11 653	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
August .....	11 712	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
November .....	11 950	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
Average .....	11 780	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
Construction worker hours (thousands):								
January to March .....	11 822	10 168	(NA)	(NA)	2	2	(NA)	(NA)
April to June .....	12 301	10 498	(NA)	(NA)	2	2	(NA)	(NA)
July to September .....	12 722	11 156	(NA)	(NA)	2	2	(NA)	(NA)
October to December .....	12 653	11 252	(NA)	(NA)	2	2	(NA)	(NA)
Total hours worked .....	49 500	43 075	(NA)	(NA)	2	1	(NA)	(NA)
Payroll, all employees .....	919 463	696 463	316 974	190 447	1	1	1	3
Payroll, construction workers .....	606 646	492 590	228 741	133 487	1	1	1	3
Payroll, other employees .....	312 816	203 873	88 233	56 960	1	1	1	3
First quarter payroll, all employees .....	210 486	161 160	70 733	(NA)	1	1	1	(NA)
Employer costs for fringe benefits, all employees .....	195 612	134 243	55 440	(NA)	1	1	1	(NA)
Legally required expenditures .....	136 097	94 983	31 807	(NA)	1	1	1	(NA)
Voluntary expenditures .....	59 515	39 260	23 633	(NA)	2	1	1	(NA)
Dollar value of business done .....	3 433 251	2 610 344	1 152 811	657 352	1	1	1	3
Value of construction work <sup>1</sup> .....	3 222 472	2 422 274	1 006 566	593 658	1	1	1	4
Value of construction work subcontracted in from others .....	1 767 757	1 325 051	588 081	292 184	2	2	1	3
Land receipts <sup>2</sup> .....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Other business receipts .....	210 779	188 069	146 245	63 694	3	2	1	7
Net value of construction work† .....	3 142 354	2 362 527	994 651	584 642	1	1	1	3
Value added†† .....	1 700 519	1 297 853	570 736	340 775	1	1	1	3
Selected costs .....	1 732 732	1 312 491	582 076	316 577	1	1	1	4
Materials, components, and supplies <sup>3</sup> .....	1 599 680	1 209 558	549 919	307 561	1	1	1	4
Construction work subcontracted to others .....	80 118	59 747	11 916	9 016	4	5	6	15
Selected power, fuels, and lubricants .....	52 933	43 185	20 242	(NA)	2	2	2	(NA)
Electricity .....	12 799	8 604	3 641	(NA)	3	3	2	(NA)
Natural gas .....	3 600	2 848	1 513	(NA)	3	4	2	(NA)
Gasoline and diesel fuel .....	34 614	29 100	13 469	(NA)	2	2	2	(NA)
On highway use .....	32 404	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
Off highway use .....	2 210	(NA)	(NA)	(NA)	4	(NA)	(NA)	(NA)
Other, including lubricating oils and greases .....	1 917	2 631	1 620	(NA)	4	5	3	(NA)
Rental cost for machinery, equipment, and buildings .....	56 999	28 823	9 621	(NA)	2	2	2	(NA)
For machinery and equipment .....	12 836	7 923	1 967	1 172	3	3	4	9
For buildings .....	44 163	20 900	7 654	(NA)	3	3	2	(NA)
Selected purchased services .....	38 591	28 258	16 018	(NA)	2	3	2	(NA)
Communication services .....	23 728	17 637	9 168	(NA)	2	3	2	(NA)
Repairs to buildings and other structures .....	3 885	2 661	1 447	(NA)	4	4	4	(NA)
Repairs to machinery and equipment .....	10 976	7 959	5 403	(NA)	3	3	2	(NA)
Ownership of construction projects:								
Value of construction work <sup>1</sup> .....	3 222 472	2 422 274	1 006 566	593 658	1	1	1	4
Government owned .....	323 357	180 631	99 997	118 484	5	10	2	4
Federal .....	82 092	(NA)	(NA)	(NA)	5	(NA)	(NA)	(NA)
State and local .....	241 265	(NA)	(NA)	(NA)	6	(NA)	(NA)	(NA)
Privately owned .....	2 899 114	2 241 643	906 570	475 174	2	1	1	4

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

<sup>2</sup>Data were collected separately for establishments classified in SIC 1531, Operative Builders, and SIC 6552, Subdividers and Developers, Except Cemeteries. For all other industries, data are included in other business receipts.

<sup>3</sup>For 1972, includes data for power, fuels, and lubricants.



**Table 3. Assets, Capital Expenditures, and Depreciation for Establishments With Payroll: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	Relative standard error of estimate (percent)	
			1987	1982
<b>BUILDINGS AND OTHER STRUCTURES, MACHINERY, AND EQUIPMENT</b>				
Beginning-of-year gross book value of depreciable assets -----	243 227	208 056	3	3
Capital expenditures, other than land -----	37 209	28 084	4	4
New -----	28 608	21 686	4	4
Used -----	8 601	6 398	10	9
Retirements and disposition of depreciable assets -----	9 715	7 250	8	4
End-of-year gross book value of depreciable assets -----	270 720	228 891	3	2
Depreciation charges during year -----	34 115	30 186	3	3
<b>Buildings and other Structures, Additions, and Related Facilities</b>				
Beginning-of-year gross book value of depreciable assets -----	87 953	62 657	6	4
Capital expenditures, other than land -----	6 493	5 807	8	8
New buildings and other structures -----	3 658	4 525	10	7
Used buildings and other structures -----	2 834	1 282	12	23
Retirements and disposition of depreciable assets -----	1 419	972	11	3
End-of-year gross book value of depreciable assets -----	93 027	67 491	6	4
Depreciation charges during year -----	8 308	5 978	8	7
<b>Machinery and Equipment</b>				
Beginning-of-year gross book value of depreciable assets -----	155 274	145 399	3	3
Capital expenditures, other than land -----	30 715	22 277	5	4
New machinery and equipment, including automobiles and trucks -----	24 949	17 161	4	4
New automobiles and trucks, intended primarily for highway use -----	16 059	10 636	5	5
Used machinery and equipment, including automobiles and trucks -----	5 766	5 116	14	9
Retirements and disposition of depreciable assets -----	8 296	6 277	9	5
End-of-year gross book value of depreciable assets -----	177 693	161 399	3	3
Depreciation charges during year -----	25 806	24 208	3	3

**Table 4. Value of Inventories for Establishments With Payroll: 1987 and 1986**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Establishments with payroll	Relative standard error of estimate (percent)
All establishments:		
Number .....	4 636	2
Value of construction work .....	3 222 472	1
Establishments with inventories:		
Number .....	2 864	3
Value of construction work .....	2 121 562	2
Inventories <sup>1</sup> :		
End of 1987, materials and supplies .....	119 627	3
End of 1986, materials and supplies .....	111 933	3
Establishments with no inventories:		
Number .....	843	8
Value of construction work .....	341 566	6
Establishments not reporting:		
Number .....	929	6
Value of construction work .....	759 344	5

<sup>1</sup>Inventories at cost or market prior to any adjustment to correct to LIFO values.

**Table 5. Selected Statistics for Establishments With Payroll by Employment Size Class: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with an average of—								
		1 to 4 employees	5 to 9 employees	10 to 19 employees	20 to 49 employees	50 to 99 employees	100 to 249 employees	250 to 499 employees	500 to 999 employees	1,000 employees or more
1987										
Number of establishments -----	4 636	(S)	1 220	802	365	72	16	-	-	-
All employees** -----	40 511	(S)	7 688	10 706	10 622	4 560	2 130	-	-	-
Payroll, all employees -----	919 463	(S)	153 002	234 508	276 655	127 824	58 484	-	-	-
Construction worker hours (thousands) -----	49 500	(S)	8 430	12 875	13 321	6 172	2 903	-	-	-
Dollar value of business done -----	3 433 251	(S)	581 939	842 038	1 016 161	477 144	175 829	-	-	-
Value of construction work <sup>1</sup> -----	3 222 472	(S)	541 268	783 266	953 020	454 678	167 829	-	-	-
Net value of construction work <sup>†</sup> -----	3 142 354	(S)	528 609	771 227	929 111	442 126	155 304	-	-	-
Value added <sup>††</sup> -----	1 700 519	(S)	292 506	424 637	501 178	222 538	92 069	-	-	-
Cost of materials, components, supplies, and fuels -----	1 652 613	(S)	276 773	405 361	491 073	242 054	71 235	-	-	-
Cost of construction work subcontracted to others -----	80 118	(S)	12 659	12 039	23 908	12 552	12 525	-	-	-
Rental cost for machinery, equipment, and buildings -----	56 999	(S)	11 006	13 701	14 905	6 615	4 009	-	-	-
Capital expenditures, other than land -----	37 209	(S)	4 854	9 963	11 423	3 796	669	-	-	-
End-of-year gross book value of depreciable assets -----	270 720	(S)	53 472	70 228	62 807	25 506	15 668	-	-	-
1982										
All employees** -----	35 843	3 862	6 532	7 726	9 195	3 809	2 506	2 212	-	(D)
Total construction receipts <sup>1</sup> -----	2 422 274	215 062	368 179	481 751	647 376	332 186	221 534	156 185	-	(D)
Value added <sup>††</sup> -----	1 297 853	104 866	195 125	258 767	347 018	174 640	118 770	98 664	-	(D)
1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)										
All employees** -----	1	(S)	4	4	3	(W)	(W)	-	-	-
Net value of construction work <sup>†</sup> -----	1	(S)	4	3	3	(W)	(W)	-	-	-
Capital expenditures, other than land -----	4	(S)	11	10	7	7	(W)	-	-	-

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



Table 6. **Selected Statistics by Size Class of the Dollar Value of Business Done for Establishments With Payroll: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics		Establishments with dollar value of business done									
		Total	Less than \$25,000	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 to \$999,999	\$1,000,000 to \$2,499,999	\$2,500,000 to \$4,999,999	\$5,000,000 to \$9,999,999
1987											
Number of establishments -----	4 636	(S)	(S)	(S)	(S)	933	774	564	196	77	25
All employees** -----	40 511	(S)	(S)	(S)	(S)	5 078	7 520	9 455	6 529	4 140	2 454
Payroll, all employees -----	919 463	(S)	(S)	(S)	(S)	90 152	152 393	230 612	176 285	130 107	75 760
Construction worker hours (thousands) -----	49 500	(S)	(S)	(S)	(S)	5 882	8 842	11 190	8 623	5 537	3 514
Dollar value of business done -----	3 433 251	(S)	(S)	(S)	(S)	321 253	540 519	843 514	652 267	480 067	328 436
Value of construction work <sup>1</sup> -----	3 222 472	(S)	(S)	(S)	(S)	302 943	495 605	782 362	617 516	452 199	320 857
Net value of construction work† -----	3 142 354	(S)	(S)	(S)	(S)	298 065	487 964	763 991	606 894	435 886	301 104
Value added†† -----	1 700 519	(S)	(S)	(S)	(S)	164 569	274 809	415 447	331 844	234 659	144 616
Cost of materials, components, supplies, and fuels -----	1 652 613	(S)	(S)	(S)	(S)	151 805	258 068	409 696	309 801	229 095	164 067
Cost of construction work subcontracted to others -----	80 118	(S)	(S)	(S)	(S)	4 878	7 640	18 371	10 622	16 313	19 753
Rental cost for machinery, equipment, and buildings -----	56 999	(S)	(S)	(S)	(S)	6 043	10 544	13 081	9 640	6 400	5 728
Capital expenditures, other than land -----	37 209	(S)	(S)	(S)	(S)	3 662	5 864	8 954	6 263	5 242	1 708
End-of-year gross book value of depreciable assets -----	270 720	(S)	(S)	(S)	(S)	35 099	49 037	62 223	39 335	25 946	19 716
1982											
All employees** -----	35 843	(S)	359	760	3 320	5 250	6 049	8 009	4 758	2 786	4 270
Total construction receipts <sup>1</sup> -----	2 422 274	(S)	9 586	27 249	154 180	267 581	348 809	552 122	382 128	233 226	444 249
Value added†† -----	1 297 853	(S)	4 137	13 692	79 917	136 490	190 721	295 081	202 108	126 034	248 078
1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)											
All employees** -----	1	(S)	(S)	(S)	(S)	6	4	3	5	(W)	(W)
Net value of construction work† -----	1	(S)	(S)	(S)	(S)	6	4	3	5	(W)	(W)
Capital expenditures, other than land -----	4	(S)	(S)	(S)	(S)	15	10	8	10	6	2

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

<sup>1</sup>In earlier censuses construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

**Table 7. Value of Construction Work for Establishments With Payroll by Type of Construction: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Type of construction	Value of construction work <sup>1</sup>				Relative standard error of estimate (percent) for column—			
	Total	New construction	Additions, alterations, or reconstruction <sup>2</sup>	Maintenance and repair				
	A	B	C	D	A	B	C	D
<b>1987</b>								
Value of construction work <sup>1</sup> .....	3 222 472	1 936 156	455 234	472 599	1	1	3	4
<b>Building construction</b> .....	2 821 996	1 925 535	446 456	450 004	1	1	3	5
Single-family houses .....	396 351	198 989	87 379	109 983	3	4	8	6
Single-family houses, detached .....	342 867	172 538	74 122	96 146	4	4	9	6
Single-family houses, attached .....	53 484	26 391	13 256	13 837	5	5	15	8
Apartment buildings with two or more apartments .....	84 516	37 806	19 616	27 092	6	6	22	7
Other residential buildings, including hotels and motels .....	163 926	110 547	30 025	23 353	4	3	13	7
Hotels and motels .....	119 374	88 579	17 177	13 618	3	3	11	7
Other residential buildings, excluding hotels and motels .....	44 552	21 968	12 848	9 735	10	7	27	12
Office buildings .....	927 580	758 545	86 042	82 993	1	1	2	3
Other commercial buildings such as stores, restaurants, and automobile service stations .....	700 283	461 417	107 165	131 700	4	2	5	15
Industrial buildings and warehouses .....	206 157	152 023	31 627	22 506	3	3	5	5
Industrial buildings .....	150 395	104 410	27 239	18 745	3	4	6	6
Warehouses .....	55 761	47 612	4 387	3 761	6	7	6	6
Religious buildings .....	49 457	27 539	11 461	10 456	6	4	14	8
Educational buildings .....	131 465	80 909	31 219	19 337	3	3	7	6
Hospitals and institutional buildings .....	119 812	72 972	31 397	15 442	3	4	4	6
Amusement, social, and recreational buildings .....	15 135	8 364	3 941	2 829	5	6	6	8
Other nonresidential buildings .....	27 314	16 424	6 584	4 313	10	10	13	21
<b>Nonbuilding construction</b> .....	41 995	10 621	8 778	22 595	13	11	31	19
<b>Construction work, n.s.k.</b> .....	358 483	(NA)	(NA)	(NA)	6	(NA)	(NA)	(NA)
<b>1982</b>								
Value of construction work <sup>1</sup> .....	2 422 274	1 830 174	(NA)	592 100	1	1	(NA)	2
<b>Building construction</b> .....	2 149 580	1 632 239	(NA)	517 340	1	1	(NA)	2
Single-family houses .....	236 773	121 782	(NA)	114 991	4	4	(NA)	5
Single-family houses, detached .....	193 207	94 558	(NA)	98 648	4	5	(NA)	6
Single-family houses, attached .....	43 565	27 223	(NA)	16 342	6	9	(NA)	9
Apartment buildings with two or more apartments .....	96 784	61 349	(NA)	35 435	5	5	(NA)	8
Other residential buildings, including hotels and motels .....	112 414	87 003	(NA)	25 410	3	4	(NA)	6
Hotels and motels .....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Other residential buildings, excluding hotels and motels .....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Office buildings .....	882 963	745 472	(NA)	137 491	1	1	(NA)	2
Other commercial buildings such as stores, restaurants, and automobile service stations .....	296 354	208 461	(NA)	87 893	3	3	(NA)	4
Industrial buildings and warehouses .....	240 396	193 181	(NA)	47 214	2	2	(NA)	3
Industrial buildings .....	184 208	144 001	(NA)	40 206	2	2	(NA)	4
Warehouses .....	56 187	49 180	(NA)	7 007	3	2	(NA)	5
Religious buildings .....	43 261	28 535	(NA)	14 725	4	4	(NA)	6
Educational buildings .....	105 814	80 071	(NA)	25 742	3	3	(NA)	5
Hospitals and institutional buildings .....	95 833	75 894	(NA)	19 938	2	2	(NA)	3
Amusement, social, and recreational buildings .....	18 103	15 819	(NA)	2 283	3	3	(NA)	6
Other nonresidential buildings .....	20 885	14 672	(NA)	6 218	7	10	(NA)	5
<b>Nonbuilding construction</b> .....	31 063	21 402	(NA)	9 661	6	4	(NA)	18
<b>Construction work, n.s.k.</b> .....	241 630	176 532	(NA)	65 098	4	5	(NA)	5

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

<sup>2</sup>In 1982, data for additions, alterations, or reconstruction were collected separately for SIC 1521, 1522, 1531, 1541, and 1542. For all other industries, data are included with "New construction."



**Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1987**

[Thousand dollars. Detail may not add to total due to rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Number of establishments	All employees**	Payroll, all employees	Value of construction work		Net value of construction work†	Value added††	Cost of construction work sub-contracted to others	Relative standard error of estimate (percent) for column—		
				For all types	For specialized type				B	D	H
All establishments -----	4 636	40 511	919 463	3 222 472	1 739 060	3 142 354	1 700 519	80 118	1	1	4
Establishments not specializing by type -----	1 416	15 385	347 893	1 152 634	(NA)	1 125 796	636 293	26 838	2	2	4
Establishments specializing 51 percent or more -----	3 220	25 126	571 569	2 069 838	1 739 060	2 016 557	1 064 225	53 280	2	2	9
SINGLE-FAMILY HOUSES, DETACHED											
All establishments specializing in type -----	707	3 535	61 351	240 236	192 212	237 375	134 814	2 861	7	6	20
Establishments with —											
100 percent specialization -----	178	788	13 302	54 845	54 845	54 482	32 123	363	20	12	20
90 to 99 percent specialization -----	118	726	11 440	43 449	39 525	42 711	26 117	737	17	12	12
80 to 89 percent specialization -----	95	398	8 140	35 105	28 589	35 002	17 790	102	18	17	32
70 to 79 percent specialization -----	157	693	12 374	41 108	29 555	39 972	22 976	*1 136	14	14	46
60 to 69 percent specialization -----	121	731	13 016	52 367	32 537	51 846	28 224	521	15	16	37
51 to 59 percent specialization -----	36	196	3 078	13 361	7 159	13 361	7 583	-	21	18	-
OFFICE BUILDINGS											
All establishments specializing in type -----	385	7 495	215 856	748 098	598 202	725 358	359 479	22 740	2	2	1
Establishments with —											
100 percent specialization -----	107	1 641	44 280	169 037	169 037	163 495	73 536	5 542	5	4	4
90 to 99 percent specialization -----	49	1 158	34 165	106 096	98 320	104 642	47 019	1 453	4	2	1
80 to 89 percent specialization -----	59	843	25 275	102 431	83 724	(D)	46 517	(D)	6	4	(D)
70 to 79 percent specialization -----	80	1 705	50 163	159 386	116 971	154 196	81 109	5 190	5	5	3
60 to 69 percent specialization -----	65	1 732	50 932	177 395	111 866	170 543	91 307	6 852	4	3	(W)
51 to 59 percent specialization -----	21	412	11 040	33 751	18 282	(D)	19 990	(D)	12	10	(D)
OTHER COMMERCIAL BUILDINGS SUCH AS STORES, RESTAURANTS, AND AUTOMOBILE SERVICE STATIONS											
All establishments specializing in type -----	658	5 838	128 449	477 688	402 013	467 270	249 308	10 417	6	7	11
Establishments with —											
100 percent specialization -----	180	1 691	40 340	156 676	156 676	153 203	81 138	3 472	6	6	8
90 to 99 percent specialization -----	92	667	16 997	58 328	54 573	56 366	30 077	*1 961	8	10	50
80 to 89 percent specialization -----	91	1 465	30 393	119 365	97 542	115 786	60 598	3 578	22	24	15
70 to 79 percent specialization -----	92	661	13 795	45 432	33 404	45 035	26 204	397	13	12	3
60 to 69 percent specialization -----	172	1 155	23 172	83 873	52 040	82 960	43 887	912	10	10	2
51 to 59 percent specialization -----	28	197	3 750	14 013	7 776	13 918	7 402	95	18	15	(W)
INDUSTRIAL BUILDINGS											
All establishments specializing in type -----	35	277	6 852	22 212	15 610	21 897	12 965	314	21	21	23
Establishments with —											
100 percent specialization -----	7	*43	*1 226	*3 599	*3 599	*3 540	*2 070	*59	64	64	74
90 to 99 percent specialization -----	-	-	-	-	-	-	-	-	-	-	-
80 to 89 percent specialization -----	*3	*35	*1 022	*2 900	*2 320	*2 881	1 880	(S)	49	47	(S)
70 to 79 percent specialization -----	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
60 to 69 percent specialization -----	23	160	3 409	11 794	7 261	11 689	6 853	*105	31	32	53
51 to 59 percent specialization -----	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

**Table 9. Quarterly Construction Worker Hours and Employment for Establishments With**

[Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Number of establishments	Average number of construction workers	Construction worker hours (thousands)	January to March		April to June	
				Construction workers <sup>1</sup>	Hours worked (thousands)	Construction workers <sup>1</sup>	Hours worked (thousands)
	A	B	C	D	E	F	G
<b>United States</b> .....	<b>4 636</b>	<b>28 730</b>	<b>49 500</b>	<b>27 811</b>	<b>11 822</b>	<b>28 574</b>	<b>12 301</b>
Alabama .....	86	468	818	468	195	449	199
Alaska .....	10	50	82	47	17	47	22
Arizona .....	70	594	1 086	556	243	542	238
Arkansas .....	30	155	252	151	63	165	66
California .....	799	4 568	7 401	4 578	1 840	4 571	1 900
Colorado .....	70	466	699	467	167	471	177
Connecticut .....	69	438	792	458	186	405	191
Delaware .....	2	(D)	(D)	(D)	(D)	(D)	(D)
District of Columbia .....	3	(D)	(D)	(D)	(D)	(D)	(D)
Florida .....	356	1 961	3 326	1 864	771	1 962	829
Georgia .....	136	897	1 565	883	378	915	403
Hawaii .....	35	150	265	146	58	143	62
Idaho .....	*18	54	83	45	18	46	19
Illinois .....	135	968	1 638	944	433	930	373
Indiana .....	88	471	895	414	194	439	201
Iowa .....	25	166	305	159	75	154	72
Kansas .....	52	343	592	320	141	335	136
Kentucky .....	55	301	538	254	109	307	136
Louisiana .....	61	437	741	427	169	445	185
Maine .....	5	27	47	26	11	26	11
Maryland .....	82	608	1 109	603	273	603	268
Massachusetts .....	115	1 042	1 897	1 004	440	981	433
Michigan .....	147	949	1 683	892	373	946	422
Minnesota .....	69	557	954	522	221	590	239
Mississippi .....	12	53	98	58	26	52	24
Missouri .....	65	439	814	457	218	440	196
Montana .....	*17	47	72	44	12	39	13
Nebraska .....	21	122	185	116	44	118	45
Nevada .....	38	255	433	248	102	243	103
New Hampshire .....	10	110	199	97	42	106	48
New Jersey .....	183	1 184	2 126	1 068	496	1 255	558
New Mexico .....	17	95	185	101	50	93	45
New York .....	285	1 802	3 090	1 708	716	1 801	764
North Carolina .....	75	761	1 462	740	342	751	366
North Dakota .....	7	35	63	32	14	36	15
Ohio .....	187	916	1 668	833	371	944	396
Oklahoma .....	68	236	555	232	117	257	163
Oregon .....	56	308	521	279	116	293	125
Pennsylvania .....	148	959	1 512	856	361	912	372
Rhode Island .....	18	144	234	139	59	110	42
South Carolina .....	54	382	683	365	159	380	175
South Dakota .....	15	74	131	68	30	73	32
Tennessee .....	71	437	772	427	185	445	193
Texas .....	364	2 362	4 025	2 466	1 063	2 487	1 063
Utah .....	16	61	104	62	26	56	25
Vermont .....	10	64	119	67	28	62	28
Virginia .....	75	776	1 374	727	314	754	336
Washington .....	184	704	1 051	692	246	675	262
West Virginia .....	17	57	101	56	23	55	25
Wisconsin .....	70	558	946	532	226	551	235
Wyoming .....	*15	39	*86	*37	15	39	*22

<sup>1</sup>Construction workers during pay periods including 12th of March, May, August, and November.



# Payroll by State: 1987

July to September		October to December		Relative standard error of estimate (percent) for column—										Location of establishment
Construction workers¹	Hours worked (thousands)	Construction workers¹	Hours worked (thousands)											
H	I	J	K	B	C	D	E	F	G	H	I	J	K	
29 429	12 722	29 108	12 653	2	2	2	2	2	2	2	2	2	2	U.S.
484	213	469	209	11	14	12	14	12	15	10	14	11	15	AL
61	25	43	17	2	1	1	10	1	5	10	10	5	8	AK
632	288	645	316	11	12	12	12	13	14	11	14	9	13	AZ
155	64	150	58	16	19	17	22	19	20	15	18	14	16	AR
4 517	1 788	4 606	1 872	7	7	7	7	7	7	7	7	7	7	CA
482	182	442	170	8	6	8	4	8	6	9	7	9	7	CO
427	199	463	213	5	6	7	7	5	8	5	7	5	7	CT
(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	DE
(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	DC
2 013	880	2 004	844	5	7	5	7	5	6	5	7	6	7	FL
932	403	860	380	5	6	4	6	5	7	5	7	6	7	GA
153	72	160	72	7	8	7	9	7	10	6	8	7	7	HI
63	21	62	24	(W)	3	(W)	4	(W)	4	(W)	2	(W)	3	ID
984	406	1 015	426	8	11	9	16	9	11	8	9	8	9	IL
519	259	510	240	14	17	16	18	13	17	15	20	14	16	IN
168	73	183	83	11	11	10	10	11	11	12	12	11	11	IA
366	157	351	156	5	7	4	8	5	6	6	7	5	6	KS
316	142	326	149	12	15	11	8	13	18	13	20	10	13	KY
445	192	431	193	4	4	4	4	4	3	4	4	5	4	LA
29	12	30	12	(W)	5	(W)	5	(W)	5	(W)	5	(W)	4	ME
624	291	602	274	2	4	3	4	2	6	4	4	2	5	MD
1 112	523	1 071	500	6	8	6	8	6	8	6	7	6	8	MA
1 003	453	955	433	6	8	6	8	6	9	6	9	6	8	MI
580	254	537	239	7	10	6	10	7	11	8	12	7	10	MN
52	23	53	24	23	21	23	21	17	17	26	24	25	23	MS
430	197	429	202	6	7	6	7	5	7	7	8	6	7	MO
56	24	51	21	(W)	3	12	9	14	15	20	20	(W)	3	MT
126	48	128	47	10	(W)	8	(W)	10	(W)	10	(W)	12	(W)	NE
246	99	284	127	11	17	9	13	10	14	11	13	17	25	NV
120	56	118	53	10	9	9	9	9	8	11	10	10	10	NH
1 173	542	1 240	528	6	7	5	7	6	8	7	8	8	8	NJ
95	45	93	44	(W)	19	(W)	24	(W)	20	(W)	18	(W)	16	NM
1 846	792	1 853	817	4	5	4	5	4	5	4	5	4	5	NY
780	375	775	377	5	5	4	4	4	6	5	6	5	6	NC
37	16	37	17	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	ND
930	437	959	464	6	7	6	8	5	7	6	8	7	8	OH
230	153	224	121	7	16	12	13	9	20	8	18	12	22	OK
322	132	337	146	17	16	17	15	17	15	17	14	18	20	OR
1 056	394	1 012	383	9	5	7	5	6	5	12	5	12	5	PA
162	64	164	67	7	10	3	5	11	18	9	11	8	10	RI
399	176	386	171	9	9	9	8	10	10	10	9	10	11	SC
83	35	75	34	16	13	15	15	16	14	18	12	17	12	SD
479	205	396	188	12	11	11	12	13	12	15	12	11	9	TN
2 363	1 001	2 133	896	3	4	3	3	4	4	3	4	4	4	TX
66	26	60	26	35	34	37	35	35	33	37	35	34	33	UT
67	30	63	31	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	VT
783	347	838	376	4	5	4	5	4	5	4	5	4	5	VA
716	263	735	279	9	13	9	14	9	13	10	13	10	14	WA
57	27	60	24	13	18	13	20	13	19	6	10	20	26	WV
575	246	573	238	17	17	17	16	16	16	17	17	17	18	WI
42	*24	41	*24	38	46	41	38	39	47	36	49	37	47	WY

Table 10. **Value of Construction Work for Establishments With Payroll by Location of Construction Work: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of construction work	1987					1982 construction receipts for work done in this State <sup>1</sup>	Percent change 1987 (col A) to 1982 (col F)	Relative standard error of estimate (percent) for column—		
	Value of construction work done in this State <sup>1</sup>	Construction work done by establishments located in this State		Construction work done by establishments not located in this State						
		Number	Value of construction work	Number	Value of construction work					
A	B	C	D	E	F	G	A	C	E	
United States -----	3 222 472	4 621	3 032 543	1 097	189 929	2 422 274	33.0	1	1	3
Alabama -----	37 844	85	36 253	21	1 591	24 328	55.6	10	10	38
Alaska -----	5 537	10	5 374	*5	*162	4 351	27.3	4	3	61
Arizona -----	65 899	70	65 156	*12	*742	26 612	147.6	12	12	47
Arkansas -----	13 811	30	13 350	10	460	7 411	86.4	13	14	21
California -----	572 941	799	571 324	8	1 616	388 207	47.6	6	6	6
Colorado -----	41 056	70	40 592	9	464	76 891	-46.6	8	8	26
Connecticut -----	51 042	68	48 103	15	2 938	27 715	84.2	7	7	6
Delaware -----	7 738	2	(D)	17	(D)	12 891	-40.0	3	(D)	(D)
District of Columbia -----	12 676	3	4 598	48	8 078	20 152	-37.1	5	(W)	7
Florida -----	193 870	356	181 989	54	11 880	129 491	49.7	4	5	19
Georgia -----	97 084	133	90 455	33	6 629	42 745	127.1	5	6	18
Hawaii -----	22 543	35	(D)	1	(D)	27 323	-17.5	9	(D)	(D)
Idaho -----	6 330	18	(D)	1	(D)	4 693	34.9	2	(D)	(D)
Illinois -----	112 747	134	101 147	48	11 599	123 202	-8.5	4	4	9
Indiana -----	55 912	88	53 058	28	2 853	30 492	83.4	9	10	15
Iowa -----	15 294	23	13 428	28	1 865	22 567	-32.2	9	10	35
Kansas -----	32 558	52	29 016	18	3 541	18 082	80.1	7	8	12
Kentucky -----	34 944	55	32 383	37	2 560	17 611	98.4	14	15	24
Louisiana -----	35 127	61	34 809	6	317	56 523	-37.9	5	5	20
Maine -----	3 750	5	(D)	*1	(D)	7 153	-47.6	2	(D)	(D)
Maryland -----	62 987	82	54 600	28	8 386	30 066	109.5	5	5	7
Massachusetts -----	141 311	115	120 697	44	20 614	78 075	81.0	4	4	5
Michigan -----	120 624	146	117 637	24	2 986	70 819	70.3	5	5	15
Minnesota -----	67 945	69	(D)	*5	(D)	43 363	56.7	2	(D)	(D)
Mississippi -----	7 064	12	6 415	18	649	10 753	-34.3	28	31	3
Missouri -----	47 738	64	45 186	15	2 552	37 505	27.3	5	6	8
Montana -----	4 494	17	4 494	-	-	5 287	-15.0	7	7	-
Nebraska -----	17 038	21	12 949	11	4 088	17 182	-8	13	16	7
Nevada -----	34 041	38	32 354	10	1 686	12 932	163.2	6	6	27
New Hampshire -----	12 035	10	10 662	14	1 372	12 183	-1.2	13	14	2
New Jersey -----	158 834	183	145 859	54	12 975	80 722	96.8	3	3	18
New Mexico -----	10 522	17	8 528	6	1 994	6 729	56.4	7	(W)	39
New York -----	205 774	285	196 604	53	9 170	131 483	56.5	5	5	13
North Carolina -----	75 503	75	68 019	36	7 483	48 951	54.2	3	4	7
North Dakota -----	4 337	7	4 337	-	-	5 436	-20.2	(W)	(W)	-
Ohio -----	102 423	187	99 347	37	3 075	67 858	50.9	5	5	21
Oklahoma -----	18 228	64	17 574	13	653	31 105	-41.4	8	8	32
Oregon -----	53 416	56	52 774	27	642	29 603	80.4	10	10	15
Pennsylvania -----	108 599	148	96 482	40	12 116	73 015	48.7	5	5	15
Rhode Island -----	14 542	18	13 890	5	652	8 167	78.1	2	2	3
South Carolina -----	38 078	54	34 058	36	4 019	26 434	44.0	7	7	11
South Dakota -----	5 325	15	5 248	*25	76	1 778	199.5	8	8	29
Tennessee -----	45 708	71	41 347	38	4 361	40 828	12.0	9	10	30
Texas -----	190 824	364	190 033	17	790	353 474	-46.0	3	3	33
Utah -----	5 442	16	(D)	1	(D)	4 422	23.1	32	(D)	(D)
Vermont -----	4 313	9	(D)	2	(D)	*543	694.3	(W)	(D)	(D)
Virginia -----	111 248	75	89 111	82	22 137	39 371	182.6	2	2	4
Washington -----	75 347	184	75 138	*7	209	42 993	75.3	9	9	18
West Virginia -----	5 962	17	5 293	*19	669	4 466	33.5	13	15	21
Wisconsin -----	51 161	70	50 457	*11	*703	31 975	60.0	16	16	66
Wyoming -----	2 883	*15	(D)	2	(D)	*6 288	-54.2	29	(D)	(D)

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



**Table 11. Dollar Value of Business Done for Establishments With Payroll by Kind of Business Activity: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. Based on their primary business activity or combination of activities, establishments were classified into this specific industry. These establishments, however, may also be engaged in other kinds of business activities. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Primary and other kinds of business activities	Dollar value of business done <sup>1</sup>		Relative standard error of estimate (percent)	
	1987	1982	1987	1982
<b>All kinds of business</b> .....	<b>3 433 251</b>	<b>2 610 344</b>	<b>1</b>	<b>1</b>
Painting construction .....	4 239	5 858	11	3
Carpentry contractor .....	11 195	5 203	18	6
Glass and glazing contractor .....	2 956 658	2 259 850	1	1
Glass coating and tinting contractor .....	16 381	(NA)	28	(NA)
Other construction activities .....	128 400	(S)	19	(S)
Manufacturing .....	9 412	5 526	12	8
Retail trade .....	102 179	66 469	4	4
Wholesale trade .....	46 570	63 278	3	3
Other activities .....	44 990	204 160	3	9
Kind of business activity, n.s.k. ....	113 227	(S)	10	(S)

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 12. **Selected Industry Ratios for Establishments With Payroll: 1987 and 1982**

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics			Relative standard error of estimate (percent) for 1987
	1987	1982	
AVERAGE PER ESTABLISHMENT			
Number of employees**-----	8.7	9.4	2
Number of construction workers-----	6.2	7.0	2
Number of all other employees-----	2.5	(NA)	2
Payroll, all employees-----\$1,000-----	198.3	183.4	2
Payroll, construction workers-----do-----	130.9	129.7	2
Payroll, other employees-----do-----	67.5	53.7	2
Dollar value of business done-----do-----	740.6	687.5	2
Value of construction work <sup>1</sup> -----do-----	695.1	637.9	2
Cost of materials, components, supplies, and fuels-----do-----	356.5	329.9	2
Construction work subcontracted to others-----do-----	17.3	15.7	4
Rental cost for machinery, equipment, and buildings-----do-----	12.3	7.6	3
Capital expenditures, other than land-----do-----	8.0	7.4	4
Gross book value of depreciable assets-----do-----	58.4	60.3	3
AVERAGE PER EMPLOYEE			
Payroll, all employees-----do-----	22.7	19.4	1
Dollar value of business done-----do-----	84.7	72.8	1
Value added†-----do-----	42.0	36.2	1
AVERAGE PER CONSTRUCTION WORKER			
Payroll, construction workers-----do-----	21.1	18.7	1
Value of construction work <sup>1</sup> -----do-----	112.2	91.7	1
Construction worker hours-----	1 722.9	1 631.5	1
AVERAGE PER OTHER EMPLOYEE			
Payroll, other employees-----\$1,000-----	26.6	(NA)	1
AVERAGE PER DOLLAR VALUE OF CONSTRUCTION WORK <sup>1</sup>			
Payroll, all employees-----	.285	.288	1
Cost of materials, components, supplies, and fuels-----	.513	.517	(W)
Cost of construction work subcontracted to others-----	.025	.025	4
Rental cost for machinery, equipment, and buildings-----	.018	.012	

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



**Table 13. Selected Industry Ratios for Establishments With Payroll by State: 1987**

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Average number of employees** per establishment	Payroll per employee (\$1,000)	Construction worker hours per construction worker	Value of construction work per construction worker (\$1,000)	Average per dollar of value of construction work			
					Payroll, all employees	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings
<b>United States</b> .....	<b>8.7</b>	<b>22.7</b>	<b>1 722.9</b>	<b>112.2</b>	<b>.285</b>	<b>.513</b>	<b>.025</b>	<b>.018</b>
Alabama .....	7.5	18.1	1 747.9	102.5	.242	.551	.029	.010
Alaska .....	7.6	26.3	1 640.0	(D)	(D)	(D)	(D)	(D)
Arizona .....	12.5	19.1	1 828.3	110.0	.257	.572	.005	.018
Arkansas .....	6.9	20.4	1 625.8	88.7	.308	.614	.008	.019
California .....	8.1	23.9	1 620.2	125.4	.270	.505	.018	.022
Colorado .....	9.0	20.2	1 500.0	87.1	.313	.493	.007	.020
Connecticut .....	9.0	27.7	1 808.2	129.5	.302	.484	.011	.014
Delaware .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
District of Columbia .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Florida .....	7.7	19.2	1 696.1	95.4	.283	.507	.015	.020
Georgia .....	9.1	22.6	1 744.7	113.6	.275	.539	.010	.012
Hawaii .....	6.7	25.7	1 766.7	150.1	.269	.548	.026	.025
Idaho .....	*4.7	16.0	1 537.0	119.2	.209	.677	.009	.032
Illinois .....	10.3	25.0	1 692.1	111.1	.322	.438	.041	.019
Indiana .....	7.4	23.4	1 900.2	118.4	.273	.559	.024	.016
Iowa .....	9.0	20.2	1 837.3	(D)	(D)	(D)	(D)	(D)
Kansas .....	8.9	18.9	1 725.9	86.3	.296	.498	.012	.018
Kentucky .....	8.0	20.4	1 787.4	111.4	.267	.496	.013	.015
Louisiana .....	9.3	20.6	1 695.7	88.8	.301	.496	(S)	.009
Maine .....	7.4	22.1	1 740.7	136.7	.221	.684	(D)	.012
Maryland .....	11.5	24.0	1 824.0	126.8	.294	.504	.036	.009
Massachusetts .....	12.6	27.5	1 820.5	118.3	.324	.480	.059	.023
Michigan .....	9.0	24.7	1 773.4	125.6	.275	.493	.029	.015
Minnesota .....	11.4	23.8	1 712.7	123.5	.273	.513	.035	.022
Mississippi .....	6.2	17.2	1 849.1	(D)	(D)	(D)	(D)	(D)
Missouri .....	9.5	27.6	1 854.2	123.3	.316	.501	*.042	.020
Montana .....	*4.4	19.6	1 531.9	(D)	(D)	(D)	(D)	(D)
Nebraska .....	8.4	20.1	1 516.4	109.5	.266	.547	.012	.012
Nevada .....	9.6	25.6	1 698.0	127.0	.289	.479	.022	.014
New Hampshire .....	15.4	23.1	1 809.1	113.9	.284	.599	.005	.013
New Jersey .....	9.0	28.7	1 795.6	134.6	.295	.475	.032	.013
New Mexico .....	7.7	16.6	1 947.4	89.9	.254	.587	.004	.018
New York .....	8.7	23.7	1 714.8	112.5	.289	.478	.041	.014
North Carolina .....	14.9	19.8	1 921.2	95.6	.304	.566	.025	.019
North Dakota .....	8.0	17.0	1 800.0	126.3	.215	.553	(D)	(D)
Ohio .....	6.9	21.8	1 821.0	112.9	.272	.514	.021	.016
Oklahoma .....	5.1	22.1	2 351.7	84.4	.387	.504	.011	.027
Oregon .....	7.6	21.8	1 691.6	172.0	.175	.570	.005	.016
Pennsylvania .....	9.2	23.7	1 576.6	119.8	.281	.535	.049	.014
Rhode Island .....	11.5	20.9	1 625.0	101.8	.296	.459	.015	.016
South Carolina .....	10.8	17.7	1 788.0	97.5	.279	.630	.010	.017
South Dakota .....	8.1	17.3	1 770.3	82.4	.343	.645	(D)	.014
Tennessee .....	8.6	19.1	1 766.6	104.2	.256	.503	*.009	.015
Texas .....	8.9	20.3	1 704.1	85.8	.325	.500	.020	.016
Utah .....	5.7	17.1	1 704.9	90.8	.281	.535	*.004	.033
Vermont .....	9.9	26.3	1 859.4	228.0	.179	.685	(D)	.026
Virginia .....	14.1	24.5	1 770.6	121.9	.275	.562	.025	.019
Washington .....	5.6	19.3	1 492.9	107.2	.262	.562	.015	.021
West Virginia .....	4.8	21.3	1 771.9	98.1	.312	.509	.003	.006
Wisconsin .....	11.7	23.4	1 695.3	98.8	.347	.513	.012	.014
Wyoming .....	*3.8	15.9	*2 205.1	(D)	(D)	(D)	(D)	(D)





# APPENDIX A.

## Explanation of Terms

**Construction**—Is composed of three broad categories:

1. **New construction**—Includes the complete, original erection of structures and essential service facilities and the initial installation of integral equipment such as elevators, and plumbing, heating, and air-conditioning supplies and equipment.
2. **Additions, alterations or reconstruction**—Includes construction activity making structural changes to existing facilities. Generally, this type of activity is considered a capital investment in the property.
3. **Maintenance and repair**—Includes construction done for the purpose of upkeep of property rather than additional investment in the property.

Examples of the general distinction between maintenance and repair and reconstruction are provided here: roof repairs, including the replacement of shingles, gutters, etc., are classified under maintenance and repairs. A complete reroofing, however, is classified as reconstruction.

**Number of establishments in business during year**—Includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments which were inactive or idle for the entire year were not included.

**Proprietors and working partners**—These data were not collected on the census report forms. The data shown are based on crediting each sole proprietorship establishment with one active proprietor and each partnership establishment with two working partners.

**All employees**—Comprise all full-time and part-time employees on the payrolls of construction establishments, who worked or received pay for any part of the pay period including the 12th of March, May, August, and November. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included, but proprietors and partners of unincorporated firms are not.

All employees is the sum of all employees during the pay periods including the 12th of March, May, August, and November, divided by 4.

**Construction workers**—Includes all workers up through the working foreman level directly engaged in construction operations, such as painters, carpenters, plumbers, and electricians. Included are journeymen, mechanics, apprentices, laborers, truck drivers and helpers, equipment

operators, and on-site record keepers and security guards. Supervisory employees above the working foreman level are excluded from this category but are included in the "other employees" category.

**Other employees**—Includes employees in executive, purchasing, accounting, personnel, professional, technical activities, and routine office functions. Also included are supervisory employees above the working foreman level.

**Construction worker hours**—Includes the total number of hours worked by construction workers. Construction worker hours were collected for each of the four quarters of 1987.

**Payroll**—Includes the gross earnings paid in the calendar year 1987 to all employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if an unincorporated concern.

**Employer costs for fringe benefits (supplemental labor costs)**—Represents expenditures made by the employer during 1987 for legally required and voluntary fringe benefit programs for employees.

**Legally required contributions**—Include Social Security contributions, unemployment compensation, workman's compensation, and State temporary disability payments.

**Voluntary payments**—Include life insurance premiums, pension plans, insurance premiums on hospital and medical plans, welfare plans, and union negotiated benefits.

Dollar value of business done comprises the following detail:

**Value of construction work done**—Includes all value of construction work done during 1987 for construction work performed by general contractors, special trades contractors, subcontractors, and land development and improvement work. Included is new construction, additions and alterations or reconstruction, and maintenance and repair construction work. Also included is the value of any construction work done by the reporting establishments for themselves.



Builders were instructed to include the value of buildings and other structures built or being built for sale in 1987 but not sold. They were to include the costs of such construction plus normal profit. Also included is the cost of construction work done on buildings for rent or lease.

Establishments engaged in the sale and installation of such construction components as plumbing, heating, and central air conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; and electrical and wiring supplies, elevators or escalators, etc., were instructed to include both the value for the installation and the receipts covering the price of the items installed.

Excluded was the cost of industrial and other specialized machinery and equipment which are not an integral part of a structure.

**Land receipts**—Includes receipts from the sale of land, whether held for sale or sold in connection with the sale of houses and other structures. It excludes the value of any improvements made to the land prior to the sale. (That value was to be included in the value of construction work done.)

**Other business receipts**—Includes business receipts not reported as value of construction work done or land receipts. The item includes business receipts from retail and wholesale trade, rental of equipment, manufacturing, transportation, legal service, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included here.

Excluded was the value of construction work done and receipts from other business operations in foreign countries and non-operating income such as interest and dividends.

**Net value of construction work**—Derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

**Value added**—Derived for each establishment, value added is equal to dollar value of business done, less costs for construction work subcontracted to others, and costs for materials, components, supplies and fuels. For SIC 6552 and SIC 1531, for which land receipts are significant, land receipts are also subtracted from dollar value of business done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

**Selected costs**—Represents the costs for materials, components, and supplies; costs for construction work subcontracted to others; and costs for selected power, fuels, and lubricants. Capital expenditures and rental costs for machinery, equipment, and structures are shown elsewhere.

Costs for materials, components, and supplies include:

- total costs to reporting establishments during 1987 for the purchase of all materials, components, and supplies, except fuels. (Supplies include expendable tools which are charged to current accounts.)
- freight and other direct charges should represent only amount paid after discounts, and the value of materials, components, and supplies obtained from other establishments of the respondent's company.
- costs for materials, components, and supplies used by the reporting establishments in the construction or reconstruction of buildings/structures for themselves which are chargeable to their fixed assets accounts, are included in this item as are costs for materials bought and resold to others.
- costs made for direct purchases of materials, components, and supplies even though the purchases were subsequently provided to subcontractors for their use.

Excluded from this item are:

- industrial and other specialized machinery and equipment, such as printing presses; computer systems; etc., which are not an integral part of a structure
- materials furnished to contractors by the owners of projects.

Costs for construction work subcontracted to others include:

- all costs during 1987 for construction work subcontracted out to other construction contractors.

Excluded from this item are:

- The costs to the reporting establishment for its purchases of materials, components, and supplies, provided to a subcontractor for his use. Such costs are reported under a separate category, "costs for materials, components, and supplies."
- costs for the rental of machinery or equipment.

Costs for selected power, fuels, and lubricants include:

- costs for fuels, lubricants, and electric energy purchased during the year from other companies, or received from other establishments of the company.
- costs for natural and manufactured gas, fuel oil, coal and coke products, etc.

**Rental costs for machinery, equipment, and buildings**—Includes all costs during 1987 for renting or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, scaffolding, office space, and buildings. It



excludes costs for the rental of land. It also excludes costs under agreements which, in effect, are conditional sales contracts such as capital leases. Such costs are included in “capital expenditures.”

**Selected purchased services**—Includes all costs during 1987 for communication services purchased from other companies or from other establishments of the company. It also includes the cost of all repairs made to structures and equipment by outside companies, or from other establishments of the same company. It includes only the cost of that repair necessary to maintain property and equipment. It excludes the cost of improvements that increase the value of property, or the cost of adapting it for another use. Such costs are included in “capital expenditures”.

**Assets and depreciation**—Refers to the original cost of all fixed tangible assets such as buildings and other structures (offices, shops, etc.); stationary machinery (generators, shop equipment, etc.); mobile machinery (tractors, trucks, etc.); and other equipment (office furniture and fixtures, etc.). Not included are such items as current assets, depletable assets, intangible assets, and nondepreciable assets.

Data on assets and depreciation were collected separately for: (1) buildings and other structures, additions, and related facilities; and, (2) machinery and equipment.

Respondents were also asked to report capitalized expenditures, depreciation charges, and the gross value of assets sold, retired, scrapped, destroyed, etc., during 1987.

**Capital expenditures**—Refers to all costs actually incurred during 1987 which were or would be chargeable to the fixed assets accounts of the reporting establishments and which were of the type for which depreciation accounts are ordinarily maintained. These expenditures cover the acquisition, the construction, and the major alteration of the reporting establishment’s own buildings and other structures, whether purchased, constructed under contract, or constructed by the reporting establishment’s own forces; and the acquisition of machinery and equipment.

If leasing arrangements met the criteria set down by the Financial Accounting Standards Board (FASB) for a capital lease, respondents were instructed to report the original cost or market value of that equipment or building as a fixed asset and capital expenditure if acquired during 1987.

If capital expenditures were not recorded directly at the establishment level but handled centrally at the company or division level, respondents were requested to report appropriate estimates for the individual establishments.

**Inventories**—Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials which are owned by others, but held by the reporting establishment.

Builders who built on their own account for sale were requested to report work in progress and finished units not sold for buildings and other structures built for sale.

Inventories of multi-establishment companies were instructed to be reported by the establishment that is responsible for the inventories even if these inventories were held at a separate location.

**Ownership of construction projects**—This item shows the distribution of the value of construction work done by ownership of the project, that is, Government owned or privately owned. This classification relates to the ownership of the projects or work undertaken during the construction phase. Government owned projects are shown separately for Federal, and State and local governments.

**Value of construction work subcontracted in from others**—Includes the value of construction work during 1987 for work done by reporting establishments for other construction contractors or builders. Establishments were asked to report the approximate percent of total value of construction work accounted for by such work, and the percentages reported were applied to the reported value of construction work to develop a value for this item.

**Types of construction**—This item provides data by the types of buildings, structures, or other facilities being constructed or worked on by construction establishments in 1987. Respondents were instructed that each building, structure, or other facility should be classified in terms of its function. For example, a restaurant building was to be classified in the restaurant category whether it was designed as a commercial restaurant building or an auxiliary unit of an educational institution. If respondents worked on more than one type of building or structure in a multibuilding complex, they were instructed to report separately for each building or type of structure. If they worked on a building that had more than one purpose, i.e, office and residential, or commercial, they were to classify the building by major purpose.

In addition all respondents were requested to report the percentage of the value of construction work done for new construction, additions, alterations, or reconstruction, and maintenance and repair work for each of these types. See the definition of “Construction” for the meanings of these terms.

Building construction:

- **Single-family houses, detached**—Includes all residential buildings constructed for one family use.
- **Single-family houses, attached (include townhouses)**—Includes all residential buildings with two or more living quarters side by side, completely independent of one another, and separated by an unbroken wall from ground to roof.
- **Apartment buildings with two or more apartments**—Includes high-rise, low-rise, or any structures containing two or more housing units (excluding attached single-family houses and townhouses described above).
- **Hotels and motels**—Includes hotels, motels, and tourist cabins intended for transient accommodations.



- **Other residential buildings**—Includes dormitories, fraternity and sorority houses, nurses homes, and other nonhousekeeping residential structures.
- **Office buildings**—Includes all buildings which are used primarily for office space or for government administrative offices. Also included are banks or financial buildings which are three stories or more.
- **Other commercial buildings, such as stores, restaurants, and automobile service stations**—Includes all buildings which are intended for use primarily in the wholesale, retail, and service trades. For example, shopping centers, department stores, drug stores, restaurants, public garages, auto service stations, and one or two story bank or financial institutions.
- **Industrial buildings**—Includes all industrial buildings and plants which are used to house production and assembly activities. Heavy industrial facilities such as blast furnaces, petroleum refineries, chemical complexes, etc., are not included in this category, but under nonbuilding construction.
- **Warehouses**—Includes commercial warehouses, cold storage plants, grain elevators, mini-warehouses, and other such storage buildings.
- **Religious buildings**—Includes all buildings which are intended for religious services or functions, such as churches, synagogues, convents, monasteries, and seminaries.
- **Educational buildings**—Includes all buildings which are used directly in administrative and instructional activities, such as colleges, universities, elementary and secondary schools, correspondence, commercial, and trade schools. Libraries, museums, and art galleries, as well as laboratories which are not a part of a manufacturing establishment, are also included.
- **Hospitals and institutional buildings**—Includes all buildings which are intended to provide hospital and institutional care, such as clinics, infirmaries, sanitariums, nursing homes, homes for the aged, and orphanages.
- **Farm buildings, nonresidential**—Includes nonresidential farm buildings such as barns, poultry houses, implement sheds, and farm silos.
- **Amusement, social, and recreational buildings**—Includes buildings which are used primarily for entertainment, social and recreational activities, such as sports arenas, theaters, music halls, golf and country club buildings, skating rinks, bowling alleys, and indoor swimming pools.
- **Other nonresidential buildings**—Includes nonresidential buildings which are not classified elsewhere, such as fire stations, prisons, civic centers, bus and air passenger terminals and hangars.

#### Nonbuilding construction:

- **Highways, streets and related work, such as installation of guardrails, highway signs, etc.**—Includes streets, roads, alleys, sidewalks, curbs and gutters, culverts, right-of-way drainage, erosion control and lighting. Also includes earthwork protective structures when used in connection with road improvements.
- **Outdoor swimming pools**—Includes wading pools and reflecting pools.
- **Recreational facilities**—Includes athletic fields, golf courses, outdoor tennis courts, trails, and camps.
- **Bridges and elevated highways**—Includes viaducts and overpasses; roads, highways, railroads, and causeways built on structural supports.
- **Tunnels**—Includes highway, pedestrian, and railroad tunnels.
- **Railroad construction**—Includes the construction of railroad beds, tracks, freight yards, and signal towers.
- **Subway construction**—Includes urban mass transit subway systems above or below ground.
- **Dam and reservoir construction**—Includes hydroelectric, water supply, and flood control dams and reservoirs.
- **Marine construction**—Includes dredging, underwater rock removal, breakwaters, navigational channels, jetties, and locks.
- **Harbor and port facilities**—Includes docks, piers, and wharves.
- **Conservation and development construction**—Includes land reclamation, irrigation projects, drainage canals, levees, and flood control projects.
- **Power and communication transmission lines, towers, and related facilities**—Includes electric power lines, telephone and telegraph lines, fiber optic cables, cable television lines, television and radio towers, electric light and power facilities.
- **Power plants, except nuclear**—Includes electric and steam generating plants.
- **Power plants, nuclear**—Includes atomic energy plants, and nuclear reactors.
- **Sewers, sewerlines, and related facilities**—Includes sanitary and storm sewers, and related facilities.
- **Sewage treatment plants**—Includes sewage treatment and waste disposal plants.
- **Water mains and related facilities**—Includes water supply systems and related facilities.



- **Water treatment plants**—Includes water filtration and water softening plants.
- **Pipeline construction other than sewer or waterlines**—Includes pipelines for the transmission of gas, petroleum products, and liquefied gases.
- **Blast furnaces, petroleum refineries, chemical complexes, etc.**—Includes coke ovens, and mining appurtenances such as tipples and washeries.
- **Other nonbuilding construction**—Includes all types of nonbuilding construction, not included elsewhere.





## APPENDIX B.

### Standard Industrial Classification Titles for Industry Groups and Industries

SIC code	Industry titles	SIC code	Industry titles
<b>15</b>	<b>BUILDING CONSTRUCTION—GENERAL CONTRACTORS AND OPERATIVE BUILDERS</b>	<b>17</b>	<b>CONSTRUCTION—SPECIAL TRADE CONTRACTORS—Con.</b>
<b>152</b>	<b>General Building Contractors—Residential Buildings</b>	<b>173</b>	<b>Electrical Work Special Trade Contractors</b>
1521	General Contractors—Single-Family Houses	1731	Electrical Work Special Trade Contractors
1522	General Contractors—Residential Buildings, Other Than Single-Family	<b>174</b>	<b>Masonry, Stone Work Tile Setting, and Plastering Special Trade Contractors</b>
<b>153</b>	<b>Operative Builders</b>	1741	Masonry, Stone Setting, and Other Stone Work Special Trade Contractors
1531	Operative Builders	1742	Plastering, Drywall, Acoustical, and Insulation Work Special Trade Contractors
<b>154</b>	<b>General Building Contractors—Nonresidential Buildings</b>	1743	Terrazzo, Tile, Marble, and Mosaic Work Special Trade Contractors
1541	General Contractors—Industrial Buildings and Warehouses	<b>175</b>	<b>Carpentry and Floor Work Special Trade Contractors</b>
1542	General Contractors—Nonresidential Buildings, Other Than Industrial Buildings and Warehouses	1751	Carpentry Work Special Trade Contractors
<b>16</b>	<b>HEAVY CONSTRUCTION OTHER THAN BUILDING CONSTRUCTION—CONTRACTORS</b>	1752	Floor Laying and Other Floor Work Special Trade Contractors, Not Elsewhere Classified
<b>161</b>	<b>Highway and Street Construction, Except Elevated Highways</b>	<b>176</b>	<b>Roofing, Siding, and Sheet Metal Work Special Trade Contractors</b>
1611	Highway and Street Construction Contractors, Except Elevated Highways	1761	Roofing, Siding, and Sheet Metal Work Special Trade Contractors
<b>162</b>	<b>Heavy Construction, Except Highway and Street Construction</b>	<b>177</b>	<b>Concrete Work Special Trade Contractors</b>
1622	Bridge, Tunnel, and Elevated Highway Construction Contractors	1771	Concrete Work Special Trade Contractors
1623	Water, Sewer, Pipeline, and Communications and Powerline Construction	<b>178</b>	<b>Water Well Drilling Special Trade Contractors</b>
1629	Heavy Construction, Not Elsewhere Classified	1781	Water Well Drilling Special Trade Contractors
<b>17</b>	<b>CONSTRUCTION—SPECIAL TRADE CONTRACTORS</b>	<b>179</b>	<b>Miscellaneous Special Trade Contractors</b>
<b>171</b>	<b>Plumbing, Heating, and Air-Conditioning Special Trade Contractors</b>	1791	Structural Steel Erection Special Trade Contractors
1711	Plumbing, Heating, and Air-Conditioning Special Trade Contractors	1793	Glass and Glazing Work Special Trade Contractors
<b>172</b>	<b>Painting and Paper Hanging Special Trade Contractors</b>	1794	Excavation Work Special Trade Contractors
1721	Painting and Paper Hanging Special Trade Contractors	1795	Wrecking and Demolition Work Special Trade Contractors
		1796	Installation or Erection of Building Equipment, Special Trade Contractors, Not Elsewhere Classified
		1799	Special Trade Contractors, Not Elsewhere Classified
		<b>6552</b>	<b>LAND SUBDIVIDERS AND DEVELOPERS, EXCEPT CEMETERIES</b>





# **APPENDIX C.**

## **Geographic Divisions and States**

### **NEW ENGLAND STATES**

Connecticut  
Maine  
Massachusetts  
New Hampshire  
Rhode Island  
Vermont

### **MIDDLE ATLANTIC STATES**

New Jersey  
New York  
Pennsylvania

### **EAST NORTH CENTRAL STATES**

Illinois  
Indiana  
Michigan  
Ohio  
Wisconsin

### **WEST NORTH CENTRAL STATES**

Iowa  
Kansas  
Minnesota  
Missouri  
Nebraska  
North Dakota  
South Dakota

### **SOUTH ATLANTIC STATES**

Delaware  
District of Columbia  
Florida  
Georgia  
Maryland

### **SOUTH ATLANTIC STATES—Con.**

North Carolina  
South Carolina  
Virginia  
West Virginia

### **EAST SOUTH CENTRAL STATES**

Alabama  
Kentucky  
Mississippi  
Tennessee

### **WEST SOUTH CENTRAL STATES**

Arkansas  
Louisiana  
Oklahoma  
Texas

### **MOUNTAIN STATES**

Arizona  
Colorado  
Idaho  
Montana  
Nevada  
New Mexico  
Utah  
Wyoming

### **PACIFIC STATES**

Alaska  
California  
Hawaii  
Oregon  
Washington



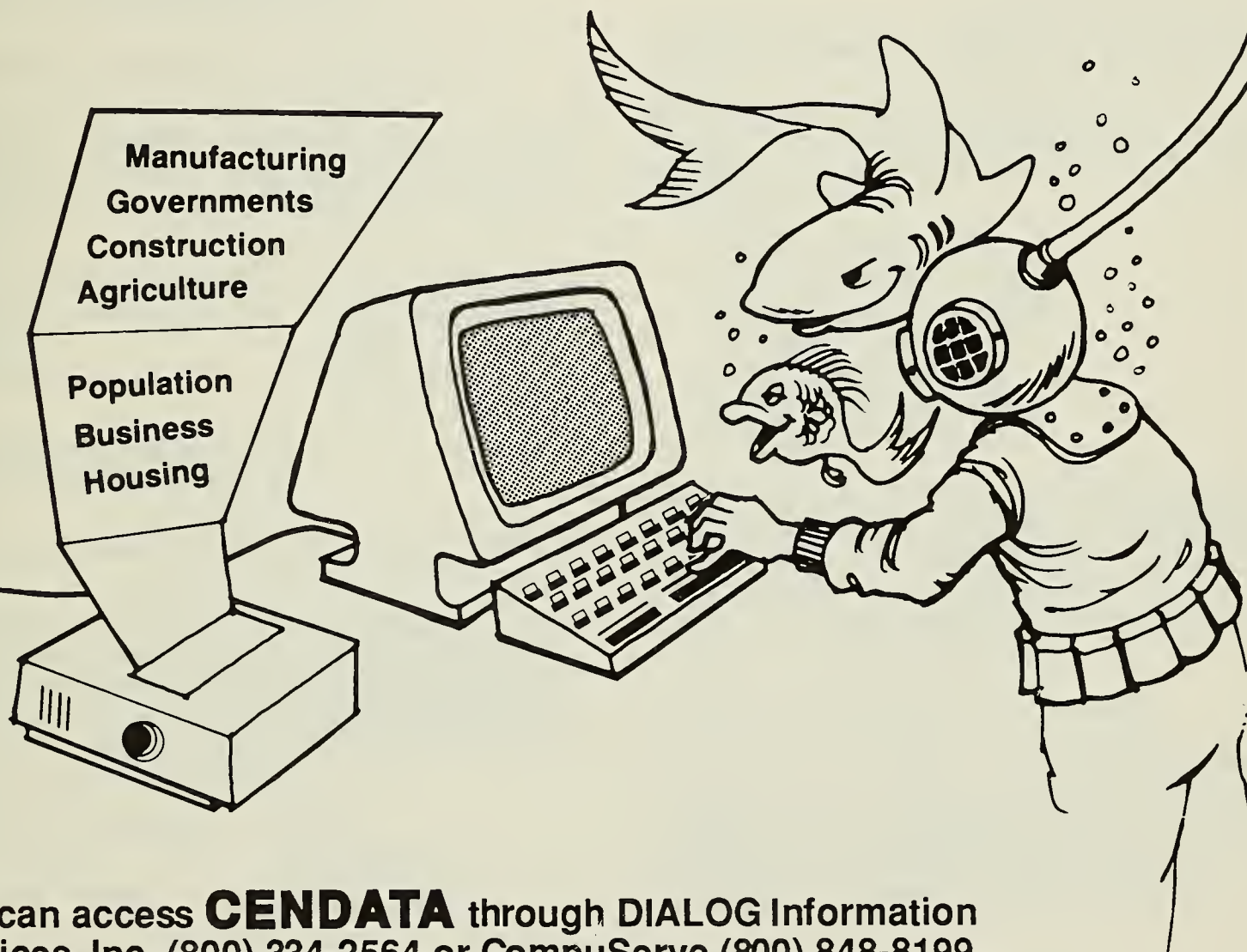


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# PUBLICATION PROGRAM

## 1987 CENSUS OF CONSTRUCTION INDUSTRIES

The Census of Construction Industries is taken once every 5 years. The census covers all establishments engaged in construction, including:

- Building contractors
- Heavy construction contractors
- Special trade contractors (including plumbers, carpenters, painters, electricians)
- Land developers and subdividers

Data products in the Census of Construction Industries are issued in 4 publication series and in 3 other media:

- Printed reports [P]
- CD-ROM [C]
- Computer tape [T]
- Highlights online [+]

### Preliminary Industry Series (CC87-I-1(P) through CC87-I-28(P))

(Available November 1988 through May 1989) [P]

Twenty-seven separate industry reports and a United States summary report, providing national statistics for establishments with payroll. Statistics shown for 1987 include:

- Number of establishments
- Number of employees
- Payroll
- Hours worked
- Value of construction work done, by type of structure
- Selected operating costs

### Final Industry Series (CC87-I-1 through CC87-I-28)

(Available June 1989 through November 1989) [P] [C] [T] [+]

Twenty-seven separate industry reports and a United States summary report, providing statistics for the Nation and individual States on establishments with payroll. These reports update figures from the preliminary industry series (employment, payroll, value of construction, etc.) and provide measures of the following:

- Capital expenditures
- Inventories
- Industry profiles
- Assets
- Depreciation
- And much more

## Geographic Area Series (CC87-A-1 through CC87-A-10)

(Available January 1990 through March 1990) [P] [C] [T] [+]

Nine reports on the construction industries, representing each census geographic division, and a United States summary report. Regional reports provide detailed data for States and metropolitan statistical areas.

## Subject Report—Legal Form of Organization and Type of Operation (CC87-S-1)

(Available May 1990) [P]

One report providing selected national statistics for each industry by legal form of organization and type of operation. This report includes data for establishments with and without payroll. Data in this report include—

- Employment
- Payroll
- Value of construction work done
- Selected operating costs

## OTHER ECONOMIC CENSUSES REPORTS

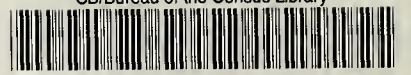
The Census of Construction Industries is part of the 1987 Economic Censuses. These are conducted at five-year intervals in years ending in 2 and 7 and consist of seven separate censuses:

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction

...plus several related programs: enterprise statistics; information on minority-owned and women-owned businesses; and the Census of Outlying Areas, including separate economic censuses of Puerto Rico and other outlying areas. The Census of Agriculture and Census of Governments are conducted separately.

## HOW TO ORDER DATA PRODUCTS

Order forms for the specific reports and other data products may be obtained from Data User Services Division, Customer Services (Publications), Bureau of the Census, Washington, DC 20233. If you have any questions, call Census Customer Services 1-(301)-763-4100.



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CC87-1-22

Glass and Glazing Work Special Trade Contractors

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